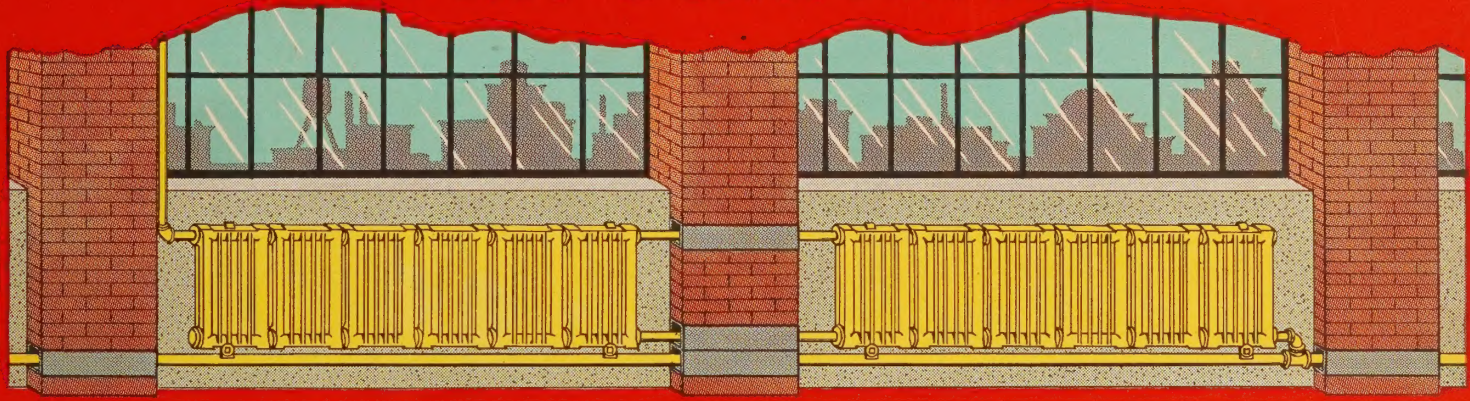
AMERICAN PEERLESS

Wall Radiators



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American Peerless Wall Radiators

In connection with

Arco Adjustable Brackets, Arco Adjustable Trapeze Supports, Arco Slip End Supports, Arco Safety Concrete Inserts, Arco Attachable Legs, Arco Pendant Flights, Arco Clearway Forms, Arco Backset Connections and Arco Greenhouse Radiator Post Supports

Information and data for Engineers, Architects, Contractors and Owners relating to Efficient, Economical and Duable Heating, Humidifying, Drying and Cooling Installations for many kinds and classes of structures

AMERICAN RADIATOR COMPANY

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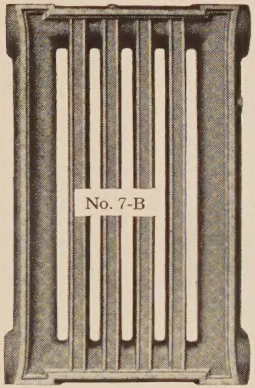
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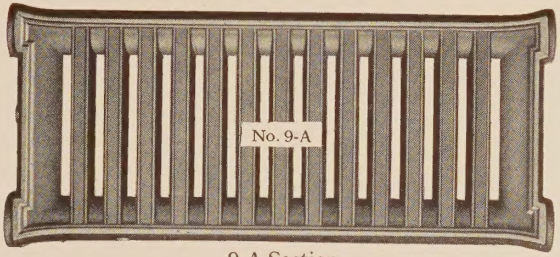
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Made in Five Sizes

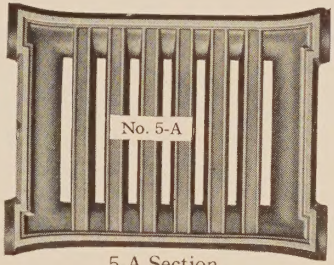


7-B Section

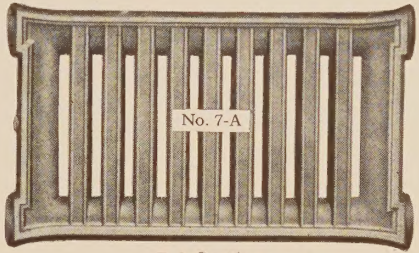
AMERICAN Peerless Wall Radiators are made in five sizes, as illustrated. For measurements, heating surfaces and tappings, see pages 14 to 18. Should always be assembled with *bars vertical* to insure highest heating efficiency.



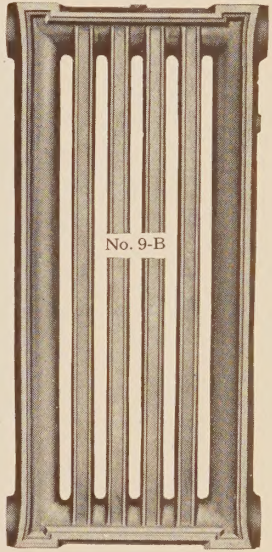
9-A Section



5-A Section



7-A Section



9-B Section

THE AMERICAN Peerless Wall Radiator is the foremost improvement in the heating field, for it replaces the troublesome pipe coil and other antiquated types of heating surface. As the pipe radiator of years ago was replaced by the cast-iron form, so the coil has been supplanted by the AMERICAN Peerless Wall Radiator.

The AMERICAN Peerless Wall Radiator was developed to supply a demand for efficiency, and it has been successful. A study of the design will show elimination of friction-giving passages, which feature allows operation with less power, pressure or vacuum, as the case may be, and eliminates many air-venting problems.

The mechanic approves of this type of radiation, since he can always make a proper circulating as well as a good-looking job. The owners will like it because it looks better, fits in better, is more efficient, and occupies less space.

The AMERICAN Peerless Wall Radiator does not wear out. The story of replacing heating surface after a number of years is now obsolete, for AMERICAN Peerless Wall Radiators are a part of the building as much as the ground upon which it is built. Being made of cast iron, it can stand the roughest use in any type of heating plant. The sections are connected together by means of heavy right- and left-hand nipples of malleable iron, and the connecting openings are made with cast-iron bushings. Nipples are several times the weight of standard pipe (this at the thread line). Being made of malleableized iron, these nipples exhibit the same remarkable resisting qualities to the action of steam and water as does the radiator surface.

We gladly supply, on request, a series of laboratory test sheets showing, under 2 pounds steam pressure at boiler, an average coefficient of 2.121 per square foot of AMERICAN Peerless Wall Radiators.

The water content of these Radiators is about fifteen-hundredths of a gallon per square foot.

All regular AMERICAN Peerless Wall Radiators are tested at factory to 100 to 120 pounds pressure. Radiators for higher working pressure than 40 pounds can be made on special order. Sections weigh about 7 pounds per square foot.

Many combinations of groupings can be made and, with a little thought, very successful applications are possible.

AMERICAN Peerless Wall Radiators never lose their value. If a building is remodeled, extended or otherwise altered, they can always be used again without loss—100 per cent salvage!

Ingenious methods of supporting AMERICAN Peerless Wall Radiators are shown—on walls, on ceilings, on girders and in almost any part of the building. As illustrated, the installation is simple—the ARCO Brackets, Supports, Hangers, Pendant Flights, Post Supports or Inserts being set and the Radiator placed on them and adjusted for pitch. These splendid devices, together with the Clearway Forms and Backset Connections, constitute an unequaled line of accessories, which will do much to advance and popularize heating.

The following pages contain descriptive matter, showing methods of application, measurements, surface, installations, telegraph code, etc.

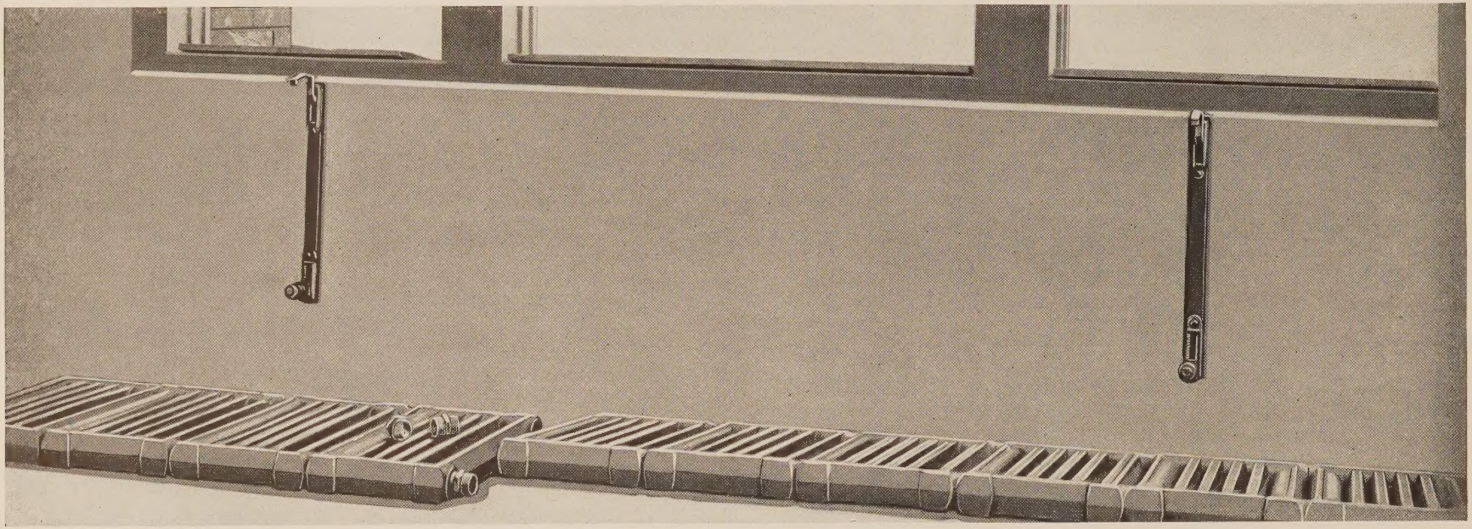


Fig. 100. ARCO Adjustable Wall Brackets in position. Right- and left-hand hexagon nipples ready for use in connecting up two shipping stacks of AMERICAN Peerless Wall sections to make one radiator.

Ready to Place in Position

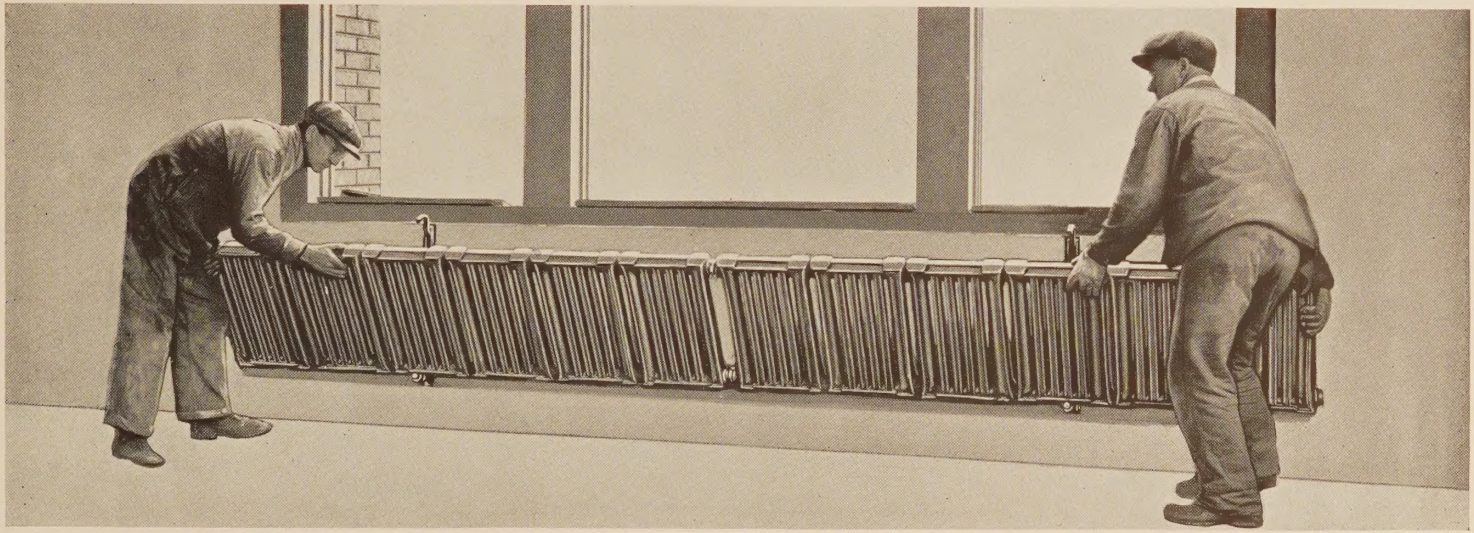


Fig. 101. AMERICAN Peerless Wall Radiation in two stacks, connected by right- and left-hand hexagon nipples, being lifted into position on lower spools of two ARCO Adjustable Wall Brackets.

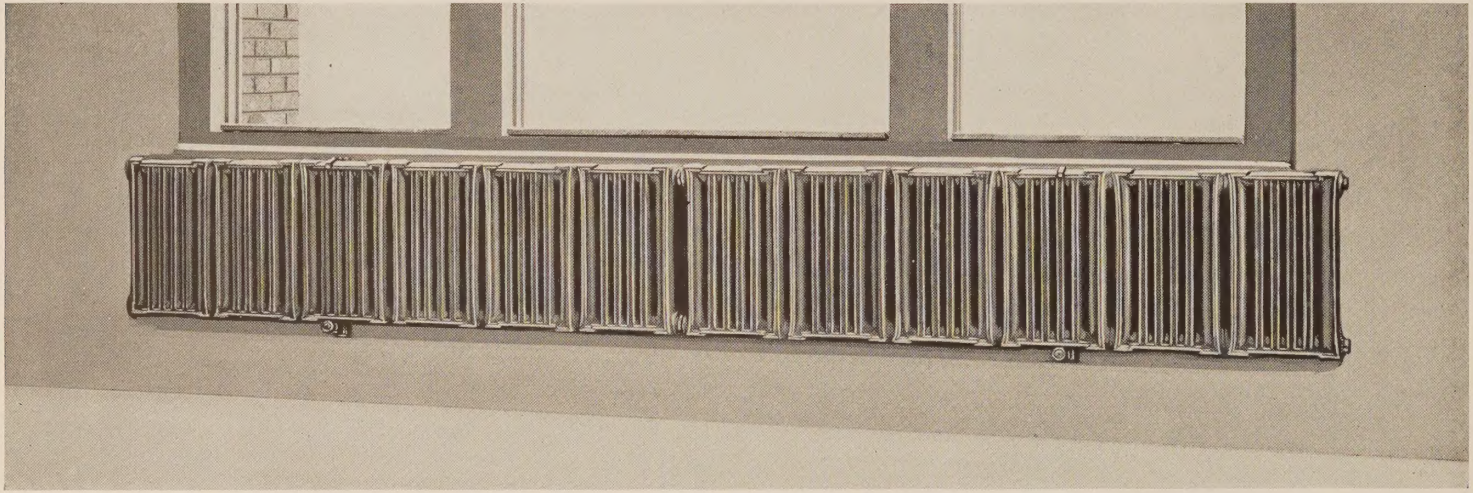


Fig. 102. After three operations, AMERICAN Peerless Wall Radiation shown in position, ready for piping connections—or ready in after years to be changed at owner's will in size, in position, etc.



Fig. 103. ARCO Adjustable Wall Bracket, Single Spool, for single row of radiation.



Fig. 104. ARCO Adjustable Wall Bracket, Double Spool, for double row of radiation.



Fig. 105. ARCO Junior Wall Bracket, for single row of radiation.

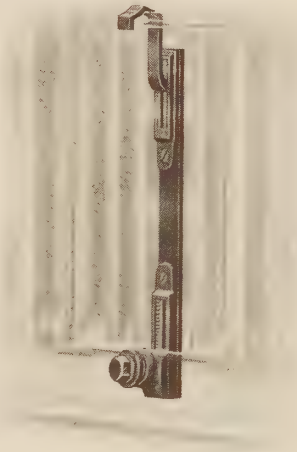


Fig. 106. Shadow view showing how AMERICAN Peerless Wall Radiators are held by the ARCO Adjustable Bracket, Single Spool.

ARCO Adjustable Wall Brackets have many unusual features and fulfill the demands of the most difficult installations. They are strong, easy to erect, adjustable, and they make a neat and attractive job.

Expansion and contraction are provided for, no matter how long the run of Wall Radiators may be. The spools on the bottom Bracket allow a free horizontal movement of the Radiators, thus taking care of any difference in "roughing in" measurements, and affording free play for expansion and contraction. Unsightly, sagging, air-bound runs of pipe coil need no longer be tolerated.

The V-shaped spool makes it impossible for the Radiator to jump from the Bracket. The finger of the top Bracket guides the Radiator and keeps it from tipping forward.

By the use of these Brackets, which permit a vertical adjustment of 2 inches, the fitter can adjust for "pitch" after they have been attached to the wall. The Single-Spool Brackets set the outer face of the Radiator 4¾ inches from the wall. Retaining bolt is ½ inch diameter.

Bearing plates and bolts of ARCO and ARCO Junior Adjustable Wall Bracket are of wrought iron. The remainder of the Bracket is made of malleable iron.

Arco Junior Wall Bracket

The ARCO Junior Wall Bracket is made for smaller units of radiation; it requires only one bolt for fastening, as shown; has an upright alignment of 1½ inches and a horizontal slip of 1 inch.

This type of Bracket can be economically used on all sizes of AMERICAN Peerless Wall Radiators where extreme expansion is not to be considered.

Arco Adjustable Wall Brackets, Single-Spool—Showing Application

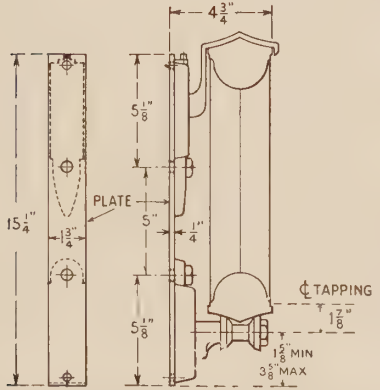


Fig. 107. ARCO Adjustable Wall Bracket, No. 1 Single. For all "A" Sections of AMERICAN Peerless Wall Radiators.

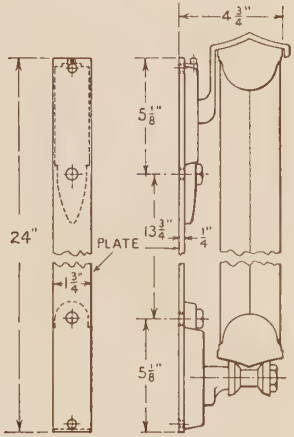


Fig. 108. ARCO Adjustable Wall Bracket, No. 2 Single. For 7-B Sections of AMERICAN Peerless Wall Radiators.

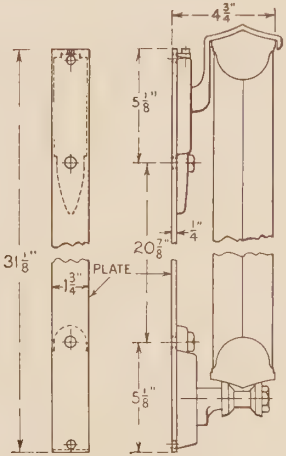


Fig. 109. ARCO Adjustable Wall Bracket, No. 3 Single. For 9-B Sections of AMERICAN Peerless Wall Radiators.

See also pages 9, 10 and 22.

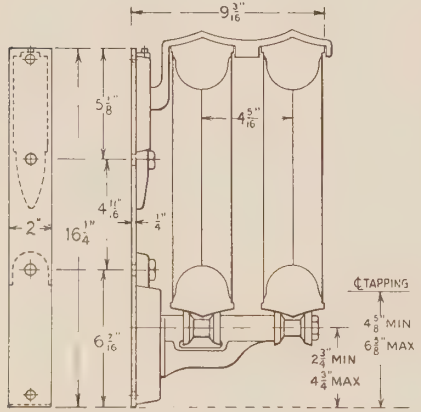


Fig. 110. ARCO Adjustable Wall Bracket, No. 1 Double. For all "A" Sections of AMERICAN Peerless Wall Radiators.

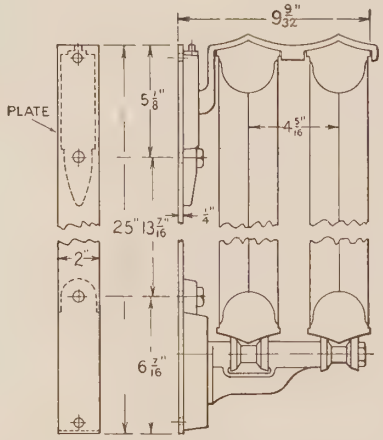


Fig. 111. ARCO Adjustable Wall Bracket, No. 2 Double. For 7-B Sections of AMERICAN Peerless Wall Radiators.

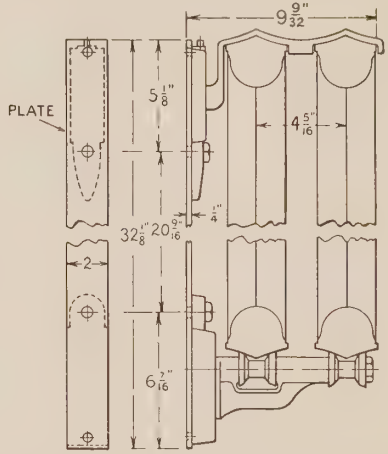
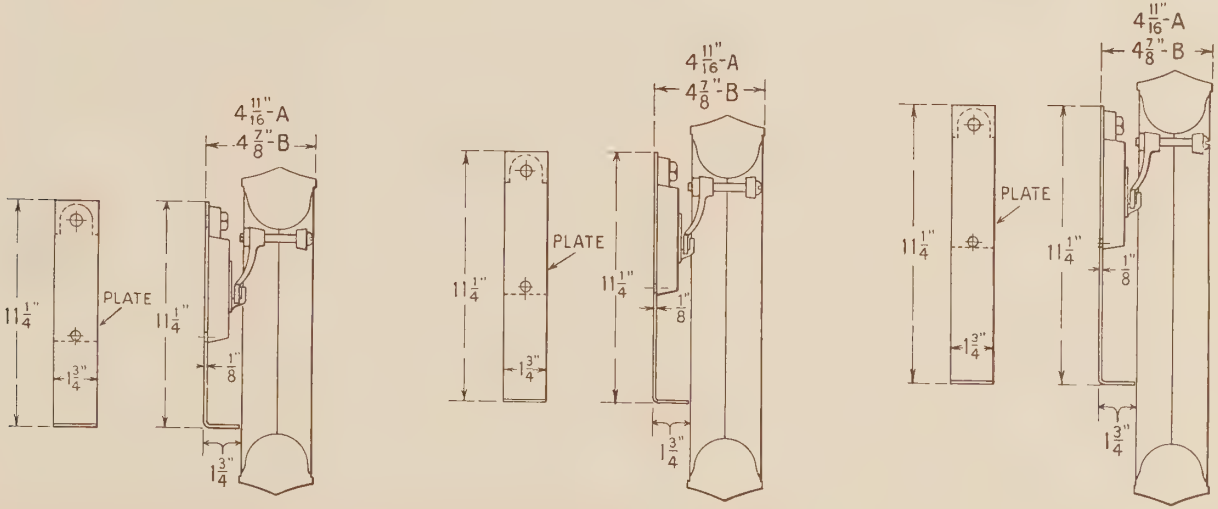


Fig. 112. ARCO Adjustable Wall Bracket, No. 3 Double. For 9-B Sections of AMERICAN Peerless Wall Radiators.

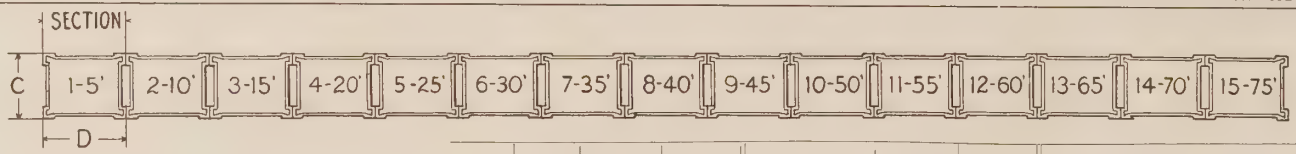
See also pages 9, 10 and 22.

Arco Junior Adjustable Wall Brackets—Showing Application



Figs. 113, 114 and 115. Show ARCO Junior Adjustable Wall Bracket No. 1 (made only in one size) applied to 5-, 7- and 9-square-foot Sections, respectively. See also pages 9, 10 and 23.

Type 5-A—5 Square Feet per Section



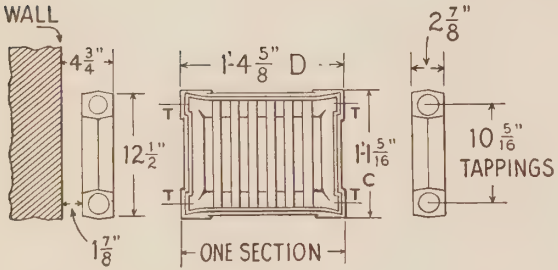


Fig. 116

No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets	No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets	No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets
1	5	1- 4 5/8	2	11	55	15- 2 7/8	3	21	105	29- 1 1/8	5
2	10	2- 9 1/4	2	12	60	16- 7 1/2	3	22	110	30- 5 3/4	5
3	15	4- 1 7/8	2	13	65	18- 0 1/8	3	23	115	31-10 3/8	5
4	20	5- 6 1/2	2	14	70	19- 4 3/4	4	24	120	33- 3	6
5	25	6-11 1/8	2	15	75	20- 9 3/8	4	25	125	34- 7 5/8	6
6	30	8- 3 3/4	2	16	80	22- 2	4	26	130	36- 0 1/4	6
7	35	9- 8 3/8	3	17	85	23- 6 5/8	4	27	135	37- 4 7/8	6
8	40	11- 1	3	18	90	24-11 1/4	4	28	140	38- 9 1/2	6
9	45	12- 5 5/8	3	19	95	26- 3 7/8	5	29	145	40- 2 1/8	6
10	50	13-10 1/4	3	20	100	27- 8 1/2	5	30	150	41- 6 3/4	6

For supports, see page 9.

For "Directions for Ordering," see page 53.

Sections are tapped for 1½-inch pipe.

If bushings are used, add ⅛ inch for each.

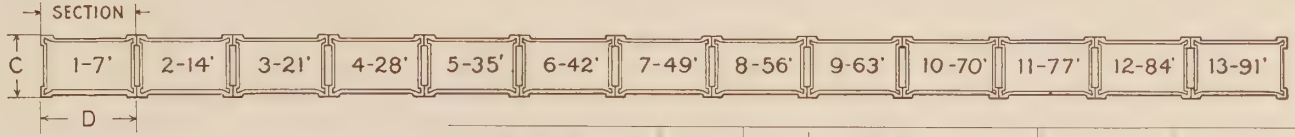
Unless otherwise ordered, Type 5-A Radiators are shipped in stacks of not more than six sections.

Larger Radiators are joined by malleable-iron hexagon, right- and left-hand threaded nipples for each addition of six or less sections.

For each hexagon nipple used add 1⅛ inches to the lengths given in the table. See scale for laying out on drawings, pages 22 and 23.

Radiators of greater lengths can be figured from the table.

Type 7-A—7 Square Feet per Section



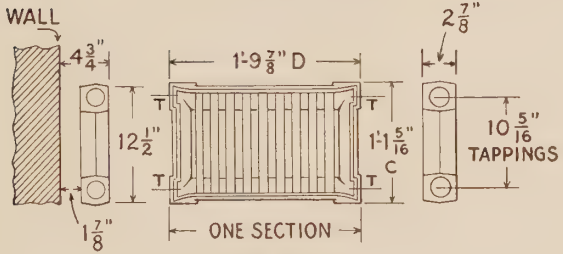


Fig. 117

No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets	No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets	No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets
1	7	1- 9 7/8	2	11	77	20- 0 5/8	4	21	147	38- 3 3/8	5
2	14	3- 7 3/4	2	12	84	21-10 1/2	4	22	154	40- 1 1/4	5
3	21	5- 5 5/8	2	13	91	23- 8 3/8	4	23	161	41-11 1/8	5
4	28	7- 3 1/2	2	14	98	25- 6 1/4	4	24	168	43- 9	6
5	35	9- 1 3/8	2	15	105	27- 4 1/8	4	25	175	45- 6 7/8	6
6	42	10-11 1/4	3	16	112	29- 2	4	26	182	47- 4 3/4	6
7	49	12- 9 1/8	3	17	119	30-11 7/8	5	27	189	49- 2 5/8	6
8	56	14- 7	3	18	126	32- 9 3/4	5	28	196	51- 0 1/2	7
9	63	16- 4 7/8	3	19	133	34- 7 5/8	5	29	203	52-10 3/8	7
10	70	18- 2 3/4	3	20	140	36- 5 1/2	5	30	210	54- 8 1/4	7

For supports, see page 9.

For "Directions for Ordering," see page 53.

Sections are tapped for 1½-inch pipe.

If bushings are used, add ½ inch for each.

Unless otherwise ordered, Type 7-A Radiators are shipped in stacks of not more than four sections.

Larger Radiators are joined by malleable-iron hexagon, right- and left-hand threaded nipples for each addition of four or less sections.

For each hexagon nipple used add 1⅛ inches to the lengths given in the table. See scale for laying out on drawings, pages 22 and 23.

Radiators of greater lengths can be figured from the table.

Type 9-A—9 Square Feet per Section



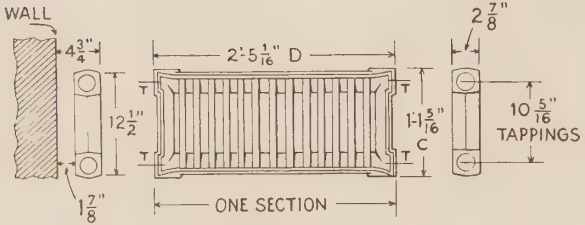


Fig. 118

No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets	No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets	No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets
1	9	2- 5 1/16	2	11	99	26- 7 11/16	4	21	189	50-10 5/16	6
2	18	4-10 1/8	2	12	108	29- 0 3/4	4	22	198	53- 3 3/8	6
3	27	7- 3 3/16	2	13	117	31- 5 13/16	5	23	207	55- 8 7/16	7
4	36	9- 8 1/4	2	14	126	33-10 7/8	5	24	216	58- 1 1/2	7
5	45	12- 1 5/16	3	15	135	36- 3 13/16	5	25	225	60- 6 9/16	7
6	54	14- 6 3/8	3	16	144	38- 9	5	26	234	62-11 5/8	7
7	63	16-11 7/16	3	17	153	41- 2 1/16	5	27	243	65- 4 11/16	8
8	72	19- 4 1/2	3	18	162	43- 7 1/8	6	28	252	67- 9 3/4	8
9	81	21- 9 9/16	4	19	171	46- 0 3/16	6	29	261	70- 2 13/16	8
10	90	24- 2 5/8	4	20	180	48- 5 1/4	6	30	270	72- 7 7/8	8

For supports, see page 9.

For "Directions for Ordering," see page 53.

Sections are tapped for 1½-inch pipe.

If bushings are used, add ½ inch for each.

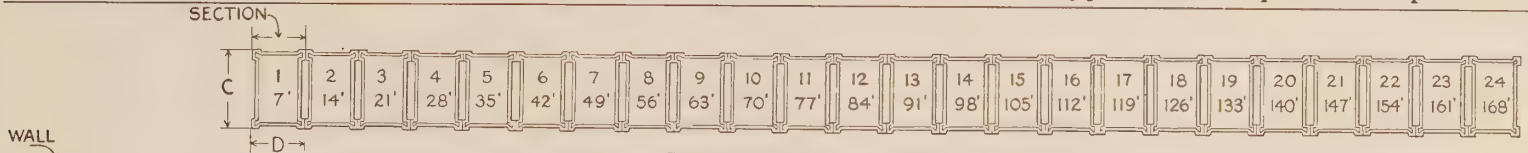
Unless otherwise ordered, Type 9-A Radiators are shipped in stacks of not more than three sections.

Larger Radiators are joined by malleable-iron hexagon, right- and left-hand threaded nipples for each addition of three or less sections.

For each hexagon nipple used add 1⅛ inches to the lengths given in the table. See scale for laying out on drawings, pages 22 and 23.

Radiators of greater lengths can be figured from the table.

Type 7-B—7 Square Feet per Section



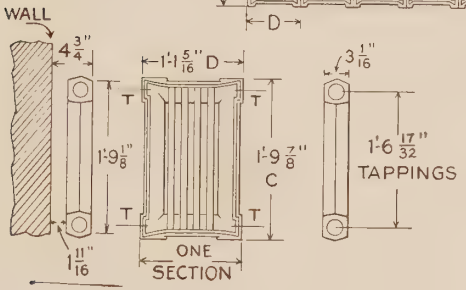


Fig. 119

No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets Dbl.	No. of Brackets Sgl.	No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets Dbl.	No. of Brackets Sgl.	No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets Dbl.	No. of Brackets Sgl.
1	7	1- 1 5/16	2	2	11	77	12- 2 7/16	3	3	21	147	23- 3 9/16	5	4
2	14	2- 2 5/8	2	2	12	84	13- 3 3/4	3	3	22	154	24- 4 7/8	5	4
3	21	3- 3 15/16	2	2	13	91	14- 5 1/16	3	3	23	161	25- 6 3/16	5	5
4	28	4- 5 1/4	2	2	14	98	15- 6 3/8	4	3	24	168	26- 7 1/2	6	5
5	35	5- 6 9/16	2	2	15	105	16- 7 11/16	4	3	25	175	27- 8 13/16	6	5
6	42	6- 7 7/8	2	2	16	112	17- 9	4	3	26	182	28-10 1/8	6	5
7	49	7- 9 3/16	2	2	17	119	18-10 5/16	4	4	27	189	29-11 7/16	6	5
8	56	8-10 1/2	2	2	18	126	19-11 5/8	4	4	28	196	31- 0 3/4	7	5
9	63	9-11 13/16	3	2	19	133	21- 0 1/16	5	4	29	203	32- 2 1/16	7	6
10	70	11-1 1/8	3	3	20	140	22- 2 1/4	5	4	30	210	33- 3 3/8	7	6

For supports, see page 9.

For "Directions for Ordering," see page 53.

Sections are tapped for 1½-inch pipe.

If bushings are used, add ½ inch for each.

Unless otherwise ordered, Type 7-B Radiators are shipped in stacks of not more than seven sections.

Larger Radiators are joined by malleable-iron hexagon, right- and left-hand threaded nipples for each addition of seven or less sections.

For each hexagon nipple used add 1⅛ inches to the lengths given in the table. See scale for laying out on drawings, pages 22 and 23.

Radiators of greater lengths can be figured from the table.

Type 9-B—9 Square Feet per Section

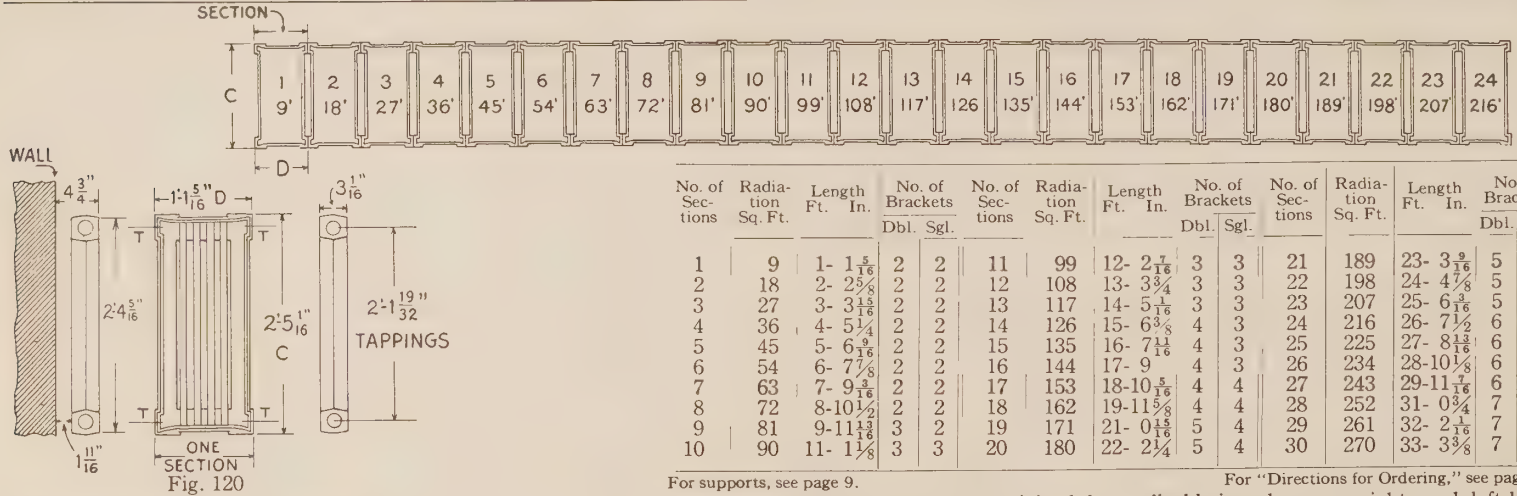


Fig. 120

No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets Dbl.	No. of Brackets Sgl.	No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets Dbl.	No. of Brackets Sgl.	No. of Sections	Radiation Sq. Ft.	Length Ft. In.	No. of Brackets Dbl.	No. of Brackets Sgl.
1	9	1- 1 5/16	2	2	11	99	12- 2 7/16	3	3	21	189	23- 3 9/16	5	4
2	18	2- 2 5/8	2	2	12	108	13- 3 3/4	3	3	22	198	24- 4 7/8	5	4
3	27	3- 3 15/16	2	2	13	117	14- 5 1/16	3	3	23	207	25- 6 3/16	5	5
4	36	4- 5 1/4	2	2	14	126	15- 6 3/8	4	3	24	216	26- 7 1/2	6	5
5	45	5- 6 9/16	2	2	15	135	16- 7 11/16	4	3	25	225	27- 8 13/16	6	5
6	54	6- 7 7/8	2	2	16	144	17- 9	4	3	26	234	28-10 1/8	6	5
7	63	7- 9 3/16	2	2	17	153	18-10 5/16	4	4	27	243	29-11 7/16	6	5
8	72	8-10 1/2	2	2	18	162	19-11 5/8	4	4	28	252	31- 0 3/4	7	5
9	81	9-11 13/16	3	2	19	171	21- 0 15/16	5	4	29	261	32- 2 1/16	7	6
10	90	11- 1 1/8	3	3	20	180	22- 2 1/4	5	4	30	270	33- 3 3/8	7	6

For supports, see page 9.

For "Directions for Ordering," see page 53.

Sections are tapped for 1½-inch pipe.

If bushings are used, add ½ inch for each.

Unless otherwise ordered, Type 9-B Radiators are shipped in stacks of not more than seven sections.

Larger Radiators are joined by malleable-iron hexagon, right- and left-hand threaded nipples for each addition of seven or less sections.

For each hexagon nipple used add 1⅛ inches to the lengths given in the table.

See scale for laying out on drawings, pages 22 and 23.

Radiators of greater lengths can be figured from the table.

Wall Radiators and Brackets Adapted to Piers



9-A
Fig. 121



7-A
Fig. 122



5-A
Fig. 123



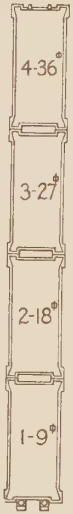
END VIEW
Fig. 124



ENLARGED VIEW OF HANGERS
Fig. 125



7-B
Fig. 126



9-B
Fig. 127

Suggested forms of application to piers or narrow spacings. It will be seen in these applications that the bars of the radiator sections are always vertical.

THE increasing use of AMERICAN Peerless Wall Radiators, hung on ARCO Adjustable Wall Brackets to walls and partitions, prompts us to suggest the following simple and practical methods of installation, which insure good jobs.

For attaching ARCO Adjustable Brackets to stone, cement or brick walls the proper use of the expansion bolt always gives the best results. Ordinary nails and screws frequently work loose, pull out or break and cannot be depended upon for secure and permanent work.

Progressive fitters have found that the following method saves time and gives best results:

To start the hole in the wall, use a "rose drill." After carefully locating the hole centers, start the hole with light blows of the hammer, being careful not to allow the drill to jump about. Thus a smooth bore is started without cracking the surface of the wall adjacent to the hole. After hole has been drilled about ¼ inch use more force, being careful to turn the drill slightly between blows, as this prevents the cutting edges striking the same point twice and produces more rapid work. (Fig. 128.) Drill hole slightly deeper than the length of the shield to be inserted so that the lag screw will



Fig. 128. Locating and Drilling Hole Centers



Fig. 129-A. Expansion Bolt Shield



Fig. 129-B. Lag Screw in Expansion Bolt Shield

project beyond the inner end and enable turning the work up tight to the wall when the screw is turned in.

Where few holes are to be drilled a hand hammer with a rose drill will give good results, but for larger work requiring numerous holes a great saving in time may be made by using a "Rapid Fire" drill. This drill works similarly to a pneumatic hammer.

After the hole is drilled accurately the shield can be inserted by hand or lightly driven in by hammer. (Fig. 129.) Drive beyond the face of the wall. Then place the plate or bracket to be attached, over the shield; then insert lag screw by hand as far as can be turned and continue turning with hand wrench or socket wrench in a brace until it has tightly drawn the work up against the wall. (Fig. 130.)

If lag screw binds at any point due to grit from wall, give it a reverse turn and then continue.

By use of the expansion bolt as previously described, ARCO Adjustable Brackets are held tightly and permanently against the wall in the simplest manner, making the installation enduring and "ship shape."

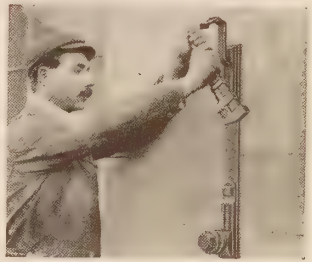


Fig. 130. Turning Up Lag Screw



Fig. 131. Wing Bolt for Hollow Tile Walls

Illustrations on pages 6 to 8 and 45 to 48 suggest some of the ways in which Radiators and Brackets may be employed.

SHOWS number and location of ARCO Adjustable Wall Bracket, Single-Spool, on AMERICAN Peerless Wall Radiators from two to thirty "B" sections long. On runs of thirty to fifty sections, the Brackets should be placed approximately 7 feet or less apart.

Number of Double-Spool Brackets (for two rows of radiation) is given in the tables on pages 17 and 18. With the Double-Spool ARCO Adjustable Wall Brackets the two runs or stacks of Radiators are separated about $1\frac{1}{4}$ inches.

Scale to be used for ARCO Junior Adjustable Wall Brackets is shown on page 23.

In calculating lengths of stacks, add $\frac{1}{2}$ inch for each end bushed, and $1\frac{1}{8}$ inches for each right- and left-hand hexagon threaded nipple used in assembling.

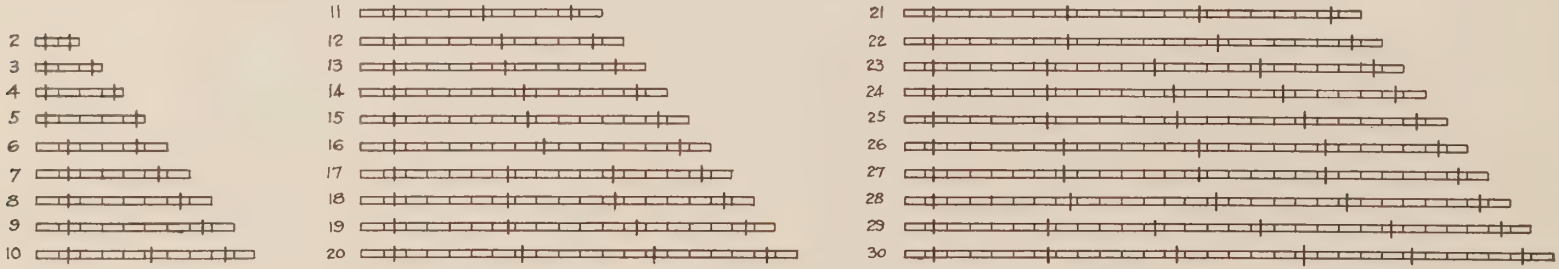


Fig. 132

Scale for Arco Junior Adjustable Wall Brackets

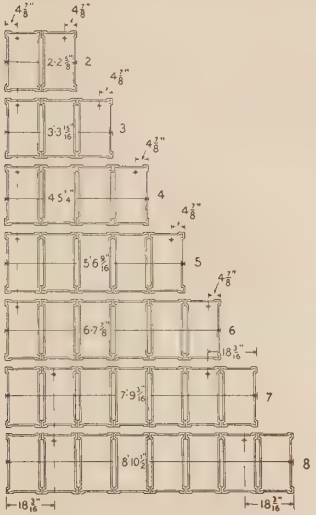


Fig. 133. For 7-B and 9-B Assemblages.

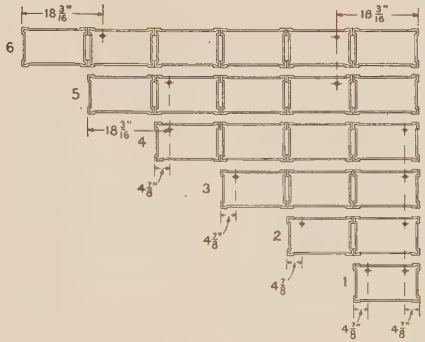


Fig. 134. For all "A" Section Assemblages.

NOTE: Lengths given are face to face of hubs, to which must be added 1⅛ inches for each hexagon make-up nipple used.

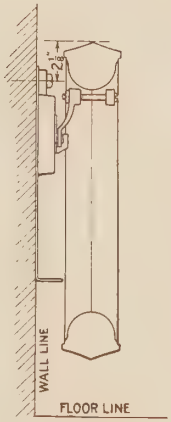


Fig. 135

LENGTH OF "A" ASSEMBLAGES IN FIG. 134

No. of Sections	5 "A" Sections Ft.	5 "A" Sections In.	7 "A" Sections Ft.	7 "A" Sections In.	9 "A" Sections Ft.	9 "A" Sections In.
6	8-	3¾	10-	11¼	14-	6⅜
5	6-	11⅛	9-	1⅜	12-	1 5/16
4	5-	6½	7-	3½	9-	8¼
3	4-	1⅞	5-	5⅝	7-	3 3/16
2	2-	9¼	3-	7¾	4-	10⅛
1	1-	4⅝	1-	9⅞	2-	5 1/16

No. of Sect.	Length of Space Occupied				Heating Surface, Sq. Ft.		
	Type 5-A Ft. In.	Type 7-A Ft. In.	Type 9-A Ft. In.	Types 7-B, 9-B Ft. In.	Type 5	Type 7	Type 9
1	1- 4 5/8	1- 9 7/8	2- 5 1/16	1- 1 5/16	5	7	9
2	2- 9 1/4	3- 7 3/4	4-10 1/8	2- 2 5/8	10	14	18
3	4- 1 7/8	5- 5 5/8	7- 3 3/16	3- 3 15/16	15	21	27
4	5- 6 1/2	7- 3 1/2	9- 8 1/4	4- 5 1/4	20	28	36
5	6-11 1/8	9- 1 3/8	12- 1 5/16	5- 6 9/16	25	35	45
6	8- 3 3/4	10-11 1/4	14- 6 3/8	6- 7 7/8	30	42	54
7	9- 8 3/8	12- 9 1/8	16-11 7/16	7- 9 3/16	35	49	63
8	11- 1	14- 7	19- 4 1/2	8-10 1/2	40	56	72
9	12- 5 5/8	16- 4 7/8	21- 9 9/16	9-11 13/16	45	63	81
10	13-10 1/4	18- 2 3/4	24- 2 5/8	11- 1 1/8	50	70	90
11	15- 2 7/8	20- 0 5/8	26- 7 11/16	12- 2 7/16	55	77	99
12	16- 7 1/2	21-10 1/2	29- 0 3/4	13- 3 3/4	60	84	108
13	18- 0 1/8	23- 8 3/8	31- 5 13/16	14- 5 1/16	65	91	117
14	19- 4 3/4	25- 6 1/4	33-10 7/8	15- 6 3/8	70	98	126
15	20- 9 3/8	27- 4 1/8	36- 3 15/16	16- 7 11/16	75	105	135
16	22- 2	29- 2	38- 9	17- 9	80	112	144
17	23- 6 5/8	30-11 7/8	41- 2 1/16	18-10 5/16	85	119	153
18	24-11 1/4	32- 9 3/4	43- 7 1/8	19-11 5/8	90	126	162
19	26- 3 7/8	34- 7 5/8	46- 0 3/16	21- 0 15/16	95	133	171
20	27- 8 1/2	36- 5 1/2	48- 5 1/4	22- 2 1/4	100	140	180
21	29- 1 1/8	38- 3 3/8	50-10 5/16	23- 3 9/16	105	147	189
22	30- 5 3/4	40- 1 1/4	53- 3 3/8	24- 4 7/8	110	154	198
23	31-10 3/8	41-11 1/8	55- 8 7/16	25- 6 3/16	115	161	207
24	33- 3	43- 9	58- 1 1/2	26- 7 1/2	120	168	216
25	34- 7 5/8	45- 6 7/8	60- 6 9/16	27- 8 13/16	125	175	225
26	36- 0 1/4	47- 4 3/4	62-11 5/8	28-10 1/8	130	182	234
27	37- 4 7/8	49- 2 5/8	65- 4 11/16	29-11 7/16	135	189	243
28	38- 9 1/2	51- 0 1/2	67- 9 3/4	31- 0 3/4	140	196	252
29	40- 2 1/8	52-10 3/8	70- 2 13/16	32- 2 1/16	145	203	261
30	41- 6 3/4	54- 8 1/4	72- 7 7/8	33- 3 3/8	150	210	270

To above lengths add ½ inch for each end bushed and 1⅛ inches for each Hexagon Nipple used in assembling.

MANY engineers maintain that railroad roundhouses should be equipped with blower systems, but nevertheless a great deal of Wall Radiation is used in this class of buildings. In many cases both systems are used.

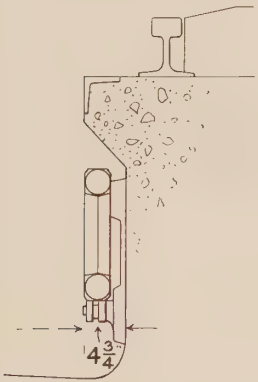


Fig. 136. AMERICAN Peerless Wall Radiator recessed inside wall of engine pit.

AMERICAN Peerless Wall Radiators are adapted excellently to roundhouse engine pits. They are narrow and, when mounted on ARCO Adjustable Wall Brackets, do not extend out more than 4¾ inches from the wall. They serve particularly well when the heating surface in these engine pits is recessed.

AMERICAN Peerless Wall Radiator "A" sections are only $13\frac{5}{16}$ inches in height. Therefore a run of many of these sections, assembled end to end, may be set in an engine pit at a pitch that is sufficient to insure perfect drainage.

The new ARCO Adjustable Wall Bracket is perfectly suited for the work that is required of it. The fact that its adjustment may be accomplished after the Wall Radiators are set in place is exceedingly important. By reason of this feature the contractor using AMERICAN Peerless Wall Radiators finds that his labor item is agreeably reduced.

AMERICAN Peerless Wall Radiators, used in bathrooms, halls, kitchens, food-packing plants, butcher shops, restaurants, Turkish baths, laundries, lavatories, hospital operating rooms, sick wards, etc., leave a clear space beneath them which can be easily scrubbed or cleaned.

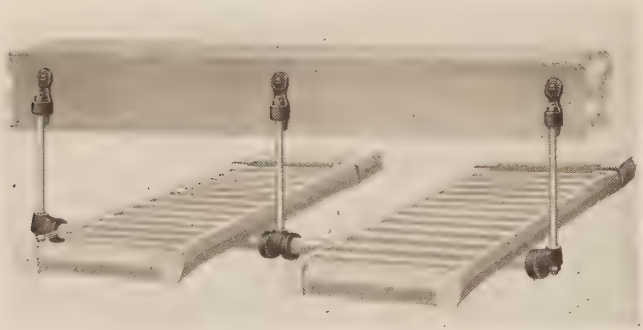


Fig. 137

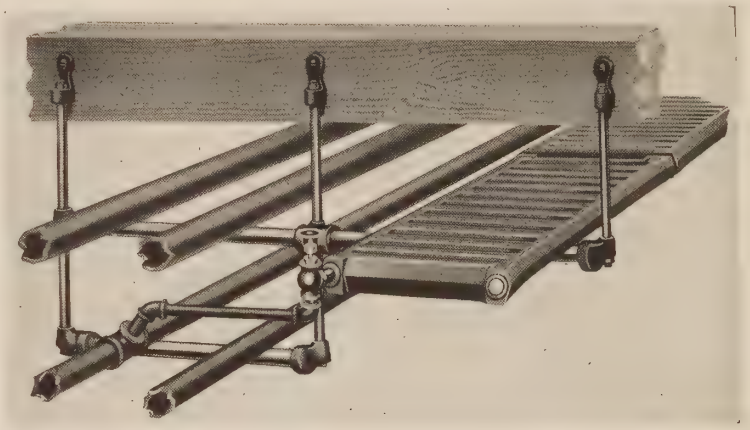


Fig. 138

FACTORIES and many other buildings must have their utmost floor space available for machinery, benches, assembling platforms and other equipment. AMERICAN Peerless Wall Radiators permit the greatest conservation of space, because they easily accommodate themselves to the building design by hanging from girders, in roof bays, light wells, etc., with the aid of the ARCO Trapeze and Slip End Supports shown in these typical installations.

REALIZING the necessity for a change from the make-shift arrangements used for strapping or hanging pipe, conduits, radiators, etc., from ceilings, beams or girders, we have designed these ARCO Trapeze Supports with the view of furnishing a permanent as well as an adjustable and neat-appearing hanger.

Figs. 138, 152 and 153, on pages 26 and 30, show the ARCO Trapeze Support employed in hanging an AMERICAN Peerless Wall Radiator, with its supply and return pipes, in addition to plumbers' pipes.

Any arrangement or combination can be assembled on the job quickly by using standard nipples or cut pipe slipped over rods between Supports. The ARCO Slip End Supports, in conjunction with the single and double ARCO Trapeze Supports, permit many additional combinations for hanging pipe, conduits, radiators, etc. The ARCO Slip End Supports shown in Fig. 142 replace the expensive and non-adjustable forged eye-bolts used in old-fashioned installations.

A few arrangements of these Supports are shown on pages 26, 30 and 45 to 47.

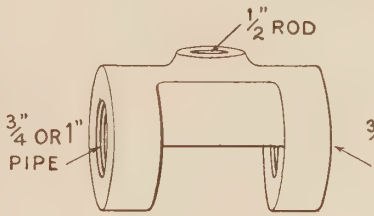


Fig. 139. ARCO Trapeze Support, Double. No. 2, with ¾-inch pipe thread; No. 4, with 1-inch pipe thread. (See page 28.)

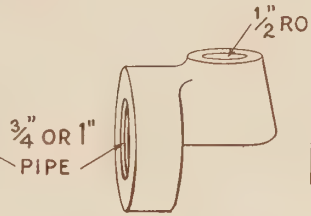


Fig. 140. ARCO Trapeze Support, Single. No. 1, with ¾-inch pipe thread; No. 3, with 1-inch pipe thread. (See page 28.)

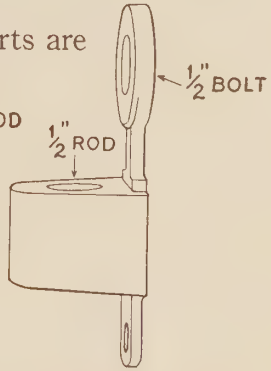


Fig. 141. ARCO Slip End Support No. 5. (See page 28.)

OFTEN it is highly desirable to employ AMERICAN Peerless Wall Radiators as *Ceiling* Radiators. Nothing detracts so greatly from the appearance of an installation as the employment of makeshift, insecure-appearing straps, bands, chains and the like, whereas the orderliness and neatness of the heating installation receive much favorable comment where the hanging of ceiling radiators and piping is simply and sturdily effected by use of these substantial and reliable ARCO Trapeze and Slip End Supports.

Besides, these ARCO Trapeze and Slip End Supports permit easy adjustment in pitch of piping and radiators or conduits at any time, whether to make up for irregularities in setting or in settling of the building.

The slight difference, if any, in cost is more than offset by the lower labor cost in erecting and adjusting these Supports.

A few examples of arrangements of these Supports are illustrated in pages 26, 30 and 45 to 47.



Fig. 142. ARCO Slip End Support, No. 5. For dimensions and threading of Slip End and Trapeze Supports, see pages 27 and 29.

Patents applied for

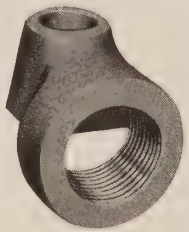
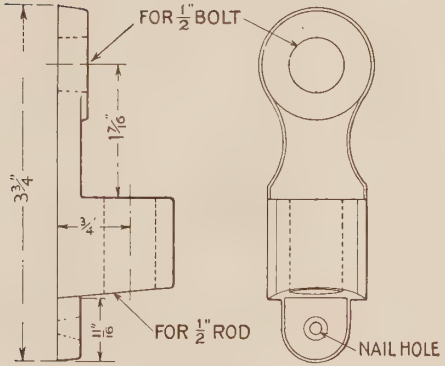


Fig. 143. ARCO Trapeze Support, Single, No. 1 or No. 3.



Fig. 144. ARCO Trapeze Support, Double, No. 2 or No. 4.

Arco Trapeze and Slip End Supports with Dimensions



Figs. 145 and 146
ARCO Slip End Supports, No. 5

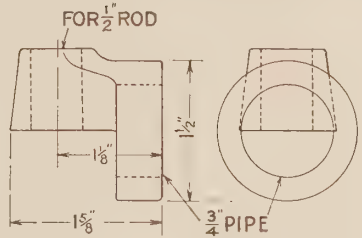


Fig. 147. ARCO Trapeze Support, Single, No. 1

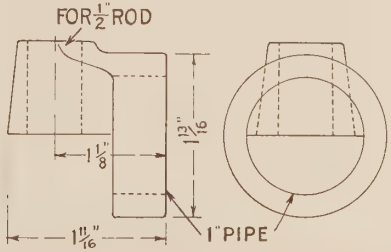


Fig. 148. ARCO Trapeze Support, Single, No. 3

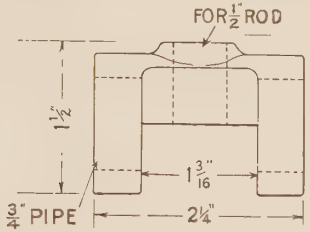


Fig. 149. ARCO Trapeze Support, Double, No. 2

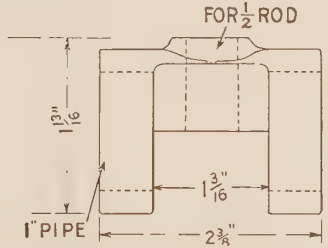


Fig. 150. ARCO Trapeze Support, Double, No. 4

ARCO Trapeze and Slip End Supports are made in dimensions as given, and as further illustrated and described on pages 26, 27, 28 and 30.



Fig. 151

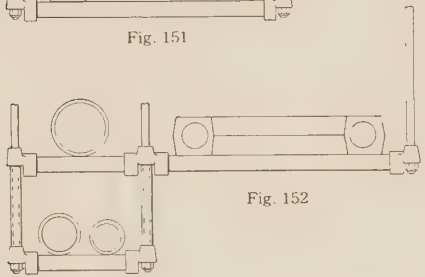


Fig. 152

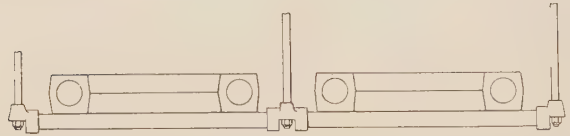


Fig. 155

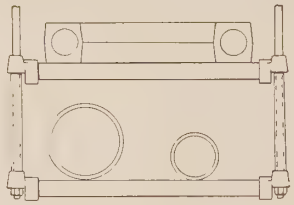


Fig. 153

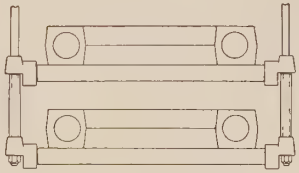


Fig. 154



Fig. 156



Fig. 157



Fig. 158



Fig. 159

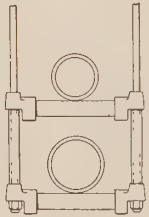


Fig. 160



Fig. 161

NOTE: Dotted lines in Figs. 152-3-4 and 160 indicate rods run through short lengths of ½-inch pipe, to afford whatever space may be determined upon for the placing of plumbing or other piping, conduits, etc. See also pages 26 to 29.

Wall Radiators—The wall radiators shown on this plan shall be of the AMERICAN Peerless pattern, as made by American Radiator Company.

Wall Brackets—AMERICAN Peerless Wall Radiators shall be supported on walls by the use of the ARCO Adjustable Wall Radiator Brackets, of the Single or Double Spool or of the ARCO Junior design.

Ceiling Radiators—The ceiling radiators shown on this plan shall be of the AMERICAN Peerless Wall pattern, as made by American Radiator Company.

Ceiling Supports—Where hung from ceilings, beams or joists, ARCO Adjustable Trapeze Supports, Slip Ends and Pendant Flights are to be used.

Attachable Legs, Clearway Forms, Backset Connections—If set on floor or used for railings, wall radiators are to be equipped with ARCO Attachable Legs. Where wall radiators are used for railings, ARCO Attachable Legs will be used in upside-down fashion on the top of the radiator, and finish board or plate fastened thereto—all as shown in catalog Form No. KM100 of the American Radiator Company.

ARCO Clearway Forms are to be set in pilasters, as indicated on plan, and Backset Connections employed as necessary.

For Contractors' information, radiators are described on the plan as follows:

W. R.—Wall Radiators
C. R.—Ceiling Radiators
P. F.—Hung Radiators
A. L.—Floor Wall Radiators
R. R.—Railing Radiators
C. F.—Clearway Forms
B. C.—Backset Connections

ARCO Clearway Forms, as shown on opposite page, have been successfully and economically used. When placed in a pier or pilaster, a clear pathway is made for the piping, thus overcoming the unsightly and expensive practice of elbowing around these projections. These forms should be delivered to the builder with instructions as to their positions. These are made to take up the height of two and three flat brick courses.

ARCO Clearway Forms can also be used on overhead piping where it is desired that pipes be out of the way of other apparatus.

Placing these Forms end to end at the center of the wall radiator tappings enables units of any length to be made —all radiators between piers being connected together on a straight line. ARCO Clearway Forms are made of cast iron, in three sizes, as listed on this page.

Where there are deeper recesses between piers or pilasters, the ARCO Backset Connections, as illustrated on page 35, offer a mechanically skillful means of neatly disposing of the radiators, causing them to hug the wall closely.

It should likewise be observed that use of Clearway Forms and Backset Connections carries circulation *through* uniformly and assists the air venting.

ARCO CLEARWAY FORMS
Table of Dimensions

No.	Height Inches	Width Inches	Length Ft. In.
1	4⅝	8⅝	1-4¾
2	4⅝	8⅝	1-9
3	4⅝	8⅝	2-1

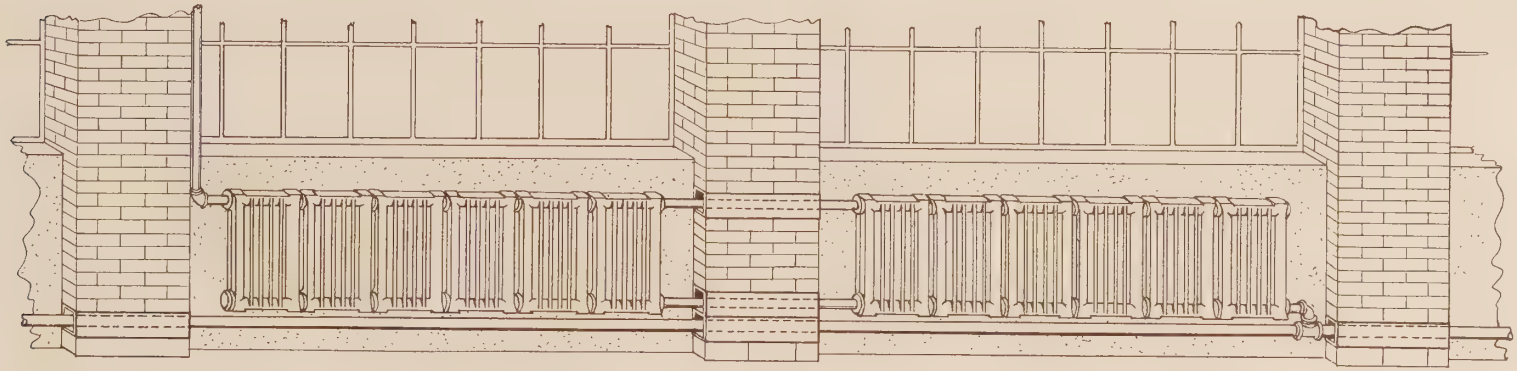


Fig. 162

A typical plan showing advantageous use of the ARCO Clearway Forms, offering clear pathways through piers or pilasters, to overcome the old-fashioned unsightly and expensive practice of elbowing around these building projections or of defacing a structure by rough attempts to channel across face of brick or concrete work. For table of sizes of ARCO Clearway Forms, descriptive text, etc., see page 32.

Arco Clearway Forms and Arco Backset Connections

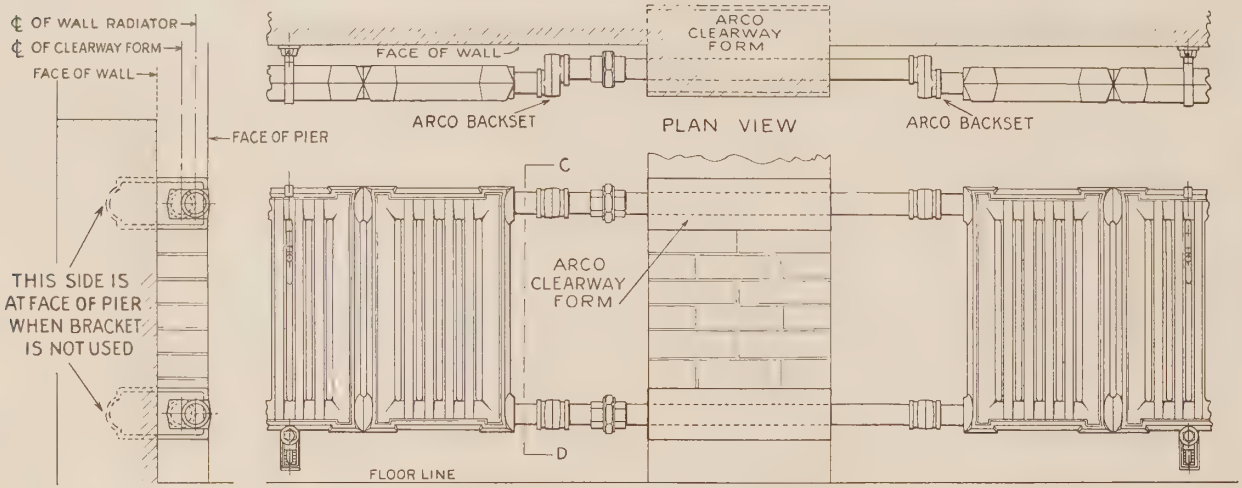
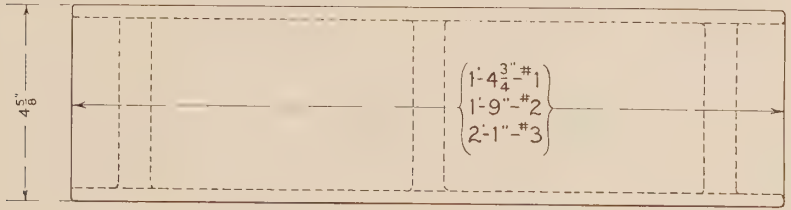


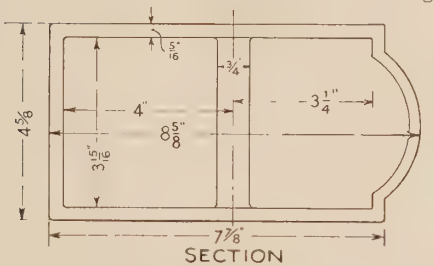
Fig. 163

Illustrates the advantageous employment of ARCO Backset Connections, in conjunction with ARCO Clearway Forms, to permit AMERICAN Peerless Wall Radiators to hug the wall closely in the recessed spaces between the piers or pilasters, particularly in the case of shallow pilasters. The ARCO Backset Connection carries the circulation *through* uniformly and assists the air venting. Made in 1½-inch size, measuring 2¾ inches in length and 1¼ inches between centers, and occupies 3¾ inches in width or backset. See also pages 33 and 35.

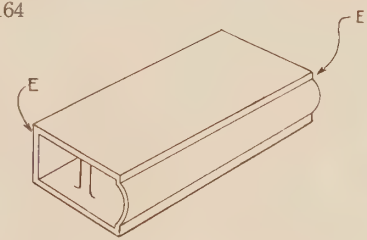
Arco Clearway Forms and Arco Backset Connections



ELEVATION
Fig. 164



SECTION
Fig. 165



E, face of wall depending on which application is used
Fig. 166

Outline measurements of ARCO Clearway Forms. For illustrations showing applications, see pages 33 and 34



Patent applied for
Fig. 167

ARCO Backset Connection, No. 1
Made in 1½-inch size, measuring 2¾ inches in length, 1¼ inches between centers, and occupies 3¾ inches in width or backset

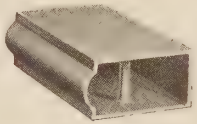
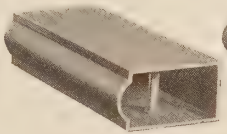


Fig. 168
Size No. 1



Patent applied for
Fig. 169
Size No. 2

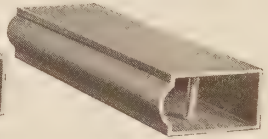


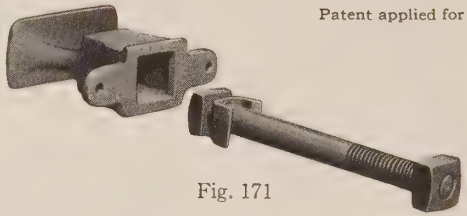
Fig. 170
Size No. 3

THE ARCO Safety Concrete Insert is adaptable to a great variety of work where heavy equipment must be hung from concrete walls or ceilings. Its large base and large surface area insure great holding power. It is easily placed and held in the desired position and cannot be dislodged by the falling concrete while pouring the wall. The expanding shoe is sturdy enough to prevent the bolt from pulling out of the Insert.

Fig. 172, page 37, shows ARCO Safety Concrete Insert nailed, in position, to inside of wall form. Ready to pour concrete.

Fig. 173, page 37. Concrete has been poured, form stripped, nails clipped and bolt inserted into recess of the Insert, which lies imbedded in concrete with its face flush with the face of concrete wall.

Fig. 175, page 37. Expansion shoe has been opened (with a cold chisel) and bolt is now ready to carry ARCO Adjustable Brackets, and their complement of AMERICAN Peerless Wall Radiators. The best practice is to have these Inserts set as the concrete work progresses, and at the exact points designated on your blue prints. When building is ready for its heating equipment, it is easy to place bolt and expansion shoe in the Insert, and hang the AMERICAN Peerless Wall Radiators thereon.



Patent applied for

Fig. 171

ARCO Safety Concrete Insert, with bolt and expansion shoe ready for insertion.

Arco Safety Concrete Insert

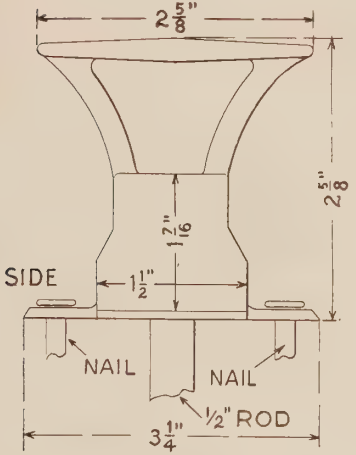


Fig. 172

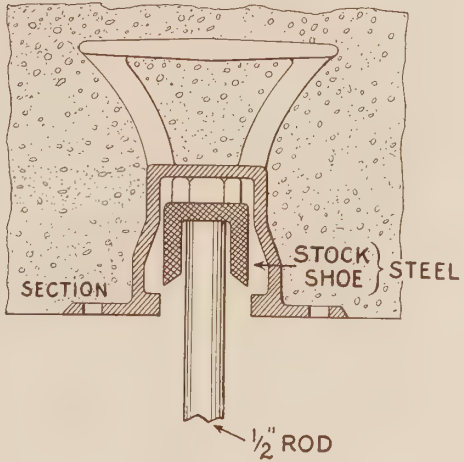


Fig. 173

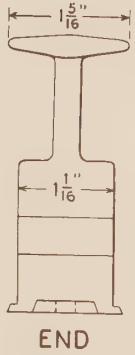


Fig. 174

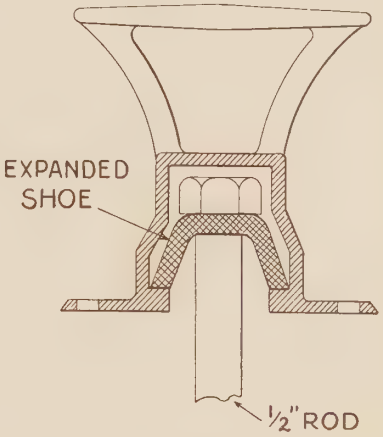
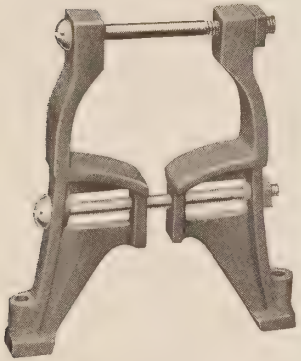


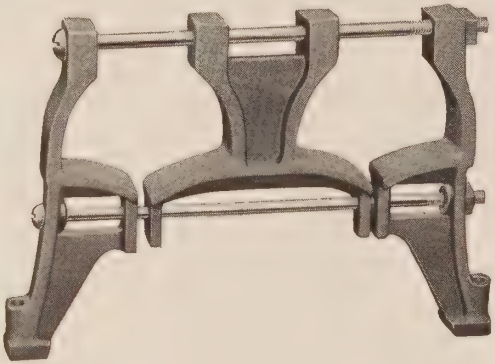
Fig. 175

Made in one size only, 2⅝ inches deep, by 3¼ inches across face. For further illustration and descriptive text, see page 36. Reverse position of the bolt head, or use bolt threaded double-end, if desirable later to remove bolt.



Patent applied for

Fig. 176. No. 1 ARCO Attachable Leg (or Shelf Support) for Single Section or Single Row of AMERICAN Peerless Wall Radiators.



Patent applied for

Fig. 177. No. 2 ARCO Attachable Leg (or Shelf Support) for Double Row of AMERICAN Peerless Wall Radiators. For dimensions and illustrations of suggested use, see pages 39, 40 and 42 to 47.

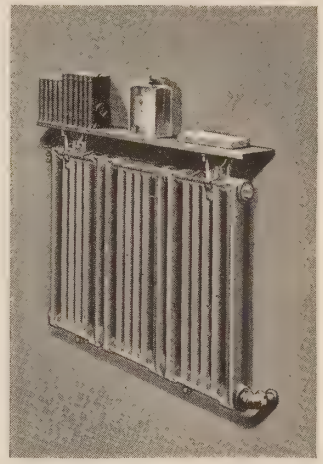


Fig. 178. ARCO Attachable Legs inverted and used as a shelf support. When shelf or rail is made to fit close to wall, acts as a wall shield as well as a convenient rail or bracket.

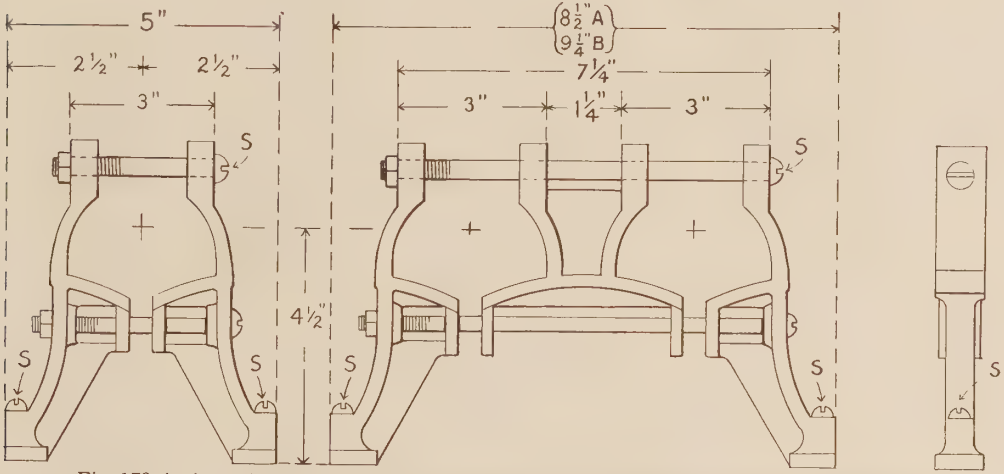


Fig. 179-A. ARCO Attachable Leg, carrying single row of AMERICAN Peerless Wall Radiator; and Fig. 179-B (at right), carrying double row.

ARCO Attachable Legs for AMERICAN Peerless Wall Radiators are made of malleable iron, and are so arranged as to finish at 4½ inches from floor to center of tapping. Radiators of five sections or less of the 7-B and 9-B type to have two Legs; of the 9-A, two Legs for three sections; of 7-A, two Legs for four sections; of 5-A, three Legs for five sections.

The number of ARCO Attachable Legs for each Radiator will be the same as shown for the Single and Double ARCO Adjustable Wall Brackets as shown in tables on pages 17 and 18.

For longer Radiators add one Leg for each five sections of 7-B and 9-B and

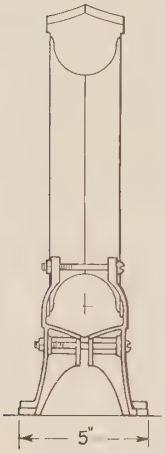


Fig. 180
Single

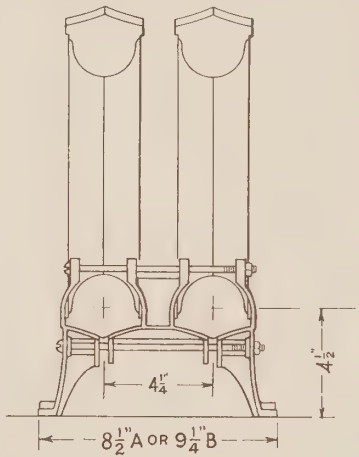


Fig. 181
Double

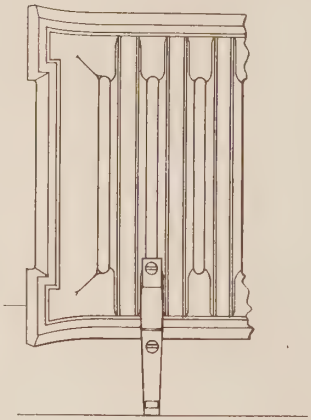


Fig. 182
Showing application

Sections through Radiator at Leg.

one for each three sections of 9-A, four sections of 7-A and five sections of 5-A or less.

When AMERICAN Peerless Wall Radiators are used as a railing, the top may be left plain or, if desired, an extra set of Legs or Supports can be run along the top, and on to this a wood or other railing top can be placed. When shelf or rail is made to fit close to wall, it acts as a wall shield as well as a convenient rail or bracket.

A further use for AMERICAN Peerless Wall Radiators is in apartments where they will set in close to the wall, 4¾ inches being the distance from back line to face of Radiator.

For sizes and dimensions, see cut on this page and page preceding.

ARCO Pendant Flights, as illustrated on this page and in the typical installation views in Figs. 191 and 192, afford an admirable means of suspending AMERICAN Peerless Wall Radiator sections in the roof bays, or in skirting the skylights, or like places, to meet and offset the cold and chill drafts and at the same time leave much of the valuable floor space free and unencumbered.

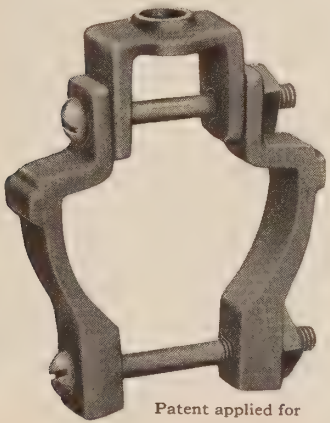
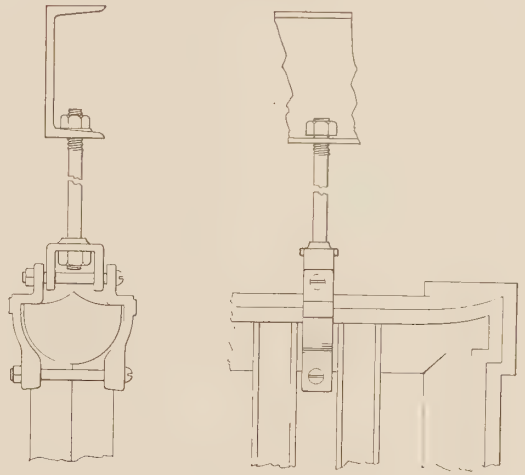


Fig. 183. ARCO Pendant Flight.

ARCO Pendant Flights fit snugly to the mid-contour of AMERICAN Peerless Wall Radiator sections, as shown by Fig. 184, at right of this page. The opening at top of the ARCO Pendant Flights accommodates a ½-inch rod —the rod extending to and being made fast to the framework of the roof or to clamp to "I" beam, as illustrated in Figs. 191 and 192, page 45.


Fig. 184. End and side view of ARCO Pendant Flight, attached to AMERICAN Peerless Wall Radiator Section.

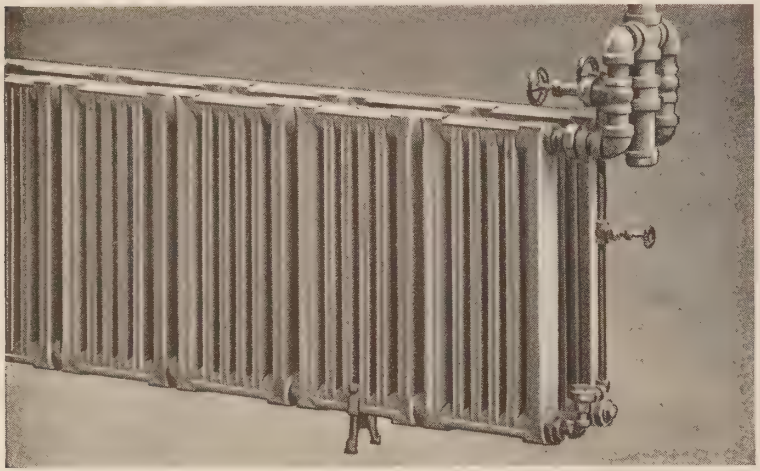


Fig. 185

Illustrating effective arrangement of double row of AMERICAN Peerless Wall Radiators and piping (before partition is put in place) with double valving, affording refinement in heat control.

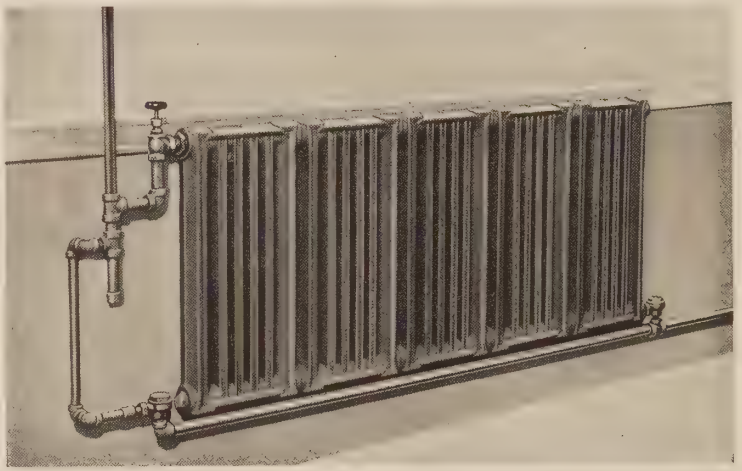


Fig. 186

Typical installation, illustrating the simple, neat, out-of-the-way arrangement of AMERICAN Peerless Wall Radiators and piping. The face of the radiators projects only 4¾ inches from the wall with use of ARCO Adjustable Single-Spool Bracket.



Fig. 187

Figs. 187 and 188. Illustrating AMERICAN Peerless Wall Radiators with ARCO Attachable Legs. In the Figure at the right the ARCO Attachable Legs are also cleverly employed as supports for wood or marble shelf or rail. See also illustrations on page 44, and outline drawings, giving Leg measurements on page 40.



Fig. 188

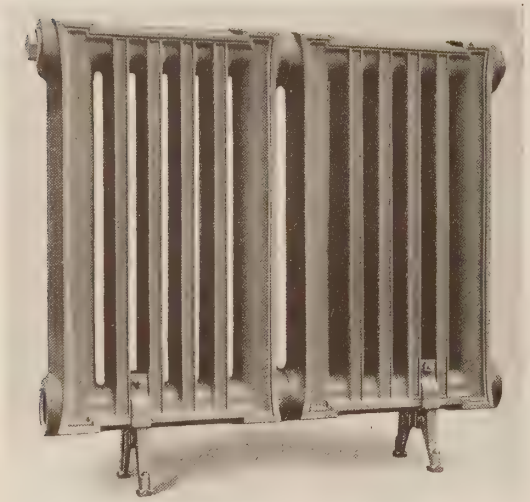


Fig. 189

Figs. 189 and 190. Illustrating single and double rows of AMERICAN Peerless Wall Radiators on ARCO Attachable Legs. For description and measurements, see pages 39 and 40.

See also illustration on page 42, showing double valving and piping, and which permits the employment of either or both stacks, to suit the heating needs of the milder winter days, or to meet sub-zero days.

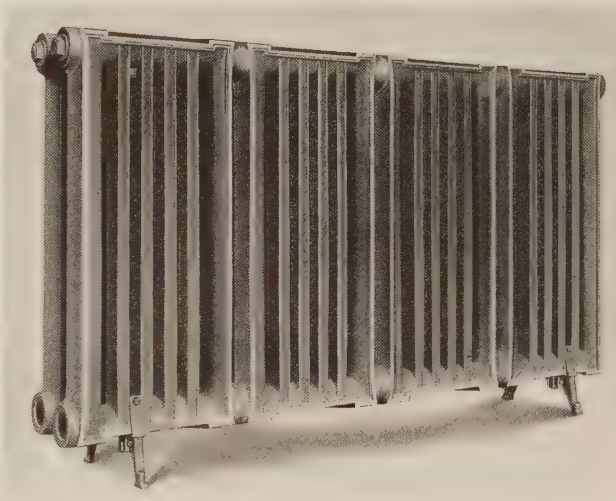


Fig. 190

Arco Pendant Flights—Arco Adjustable Wall Brackets

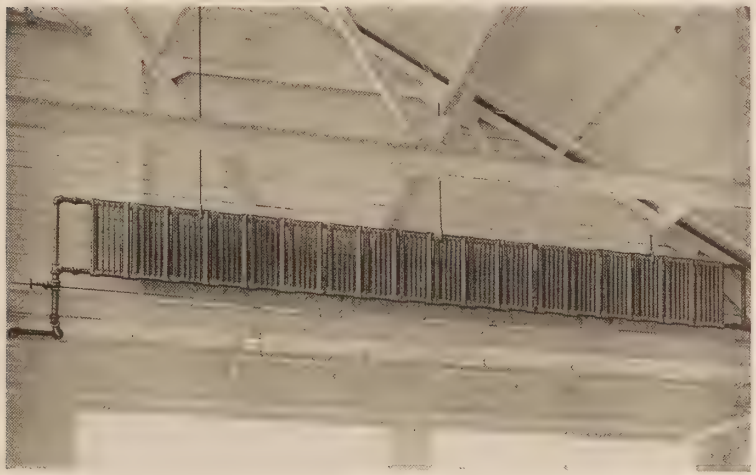


Fig. 191

Illustrating how AMERICAN Peerless Wall Radiators in saw-tooth bay are held in suspension by ARCO Pendant Flights. (See page 41.)



Fig. 192

Shows various assemblages of Wall Radiators carried by ARCO Adjustable Trapeze Supports, from ceiling, and held up, out of the way, on partition and under side-windows by ARCO Adjustable Wall Brackets.



Fig. 193

Illustrating how AMERICAN Peerless Wall Radiators are placed effectively but entirely out of the way of workers and operations. Note ARCO Adjustable Trapeze Supports on ceiling supply pipe.

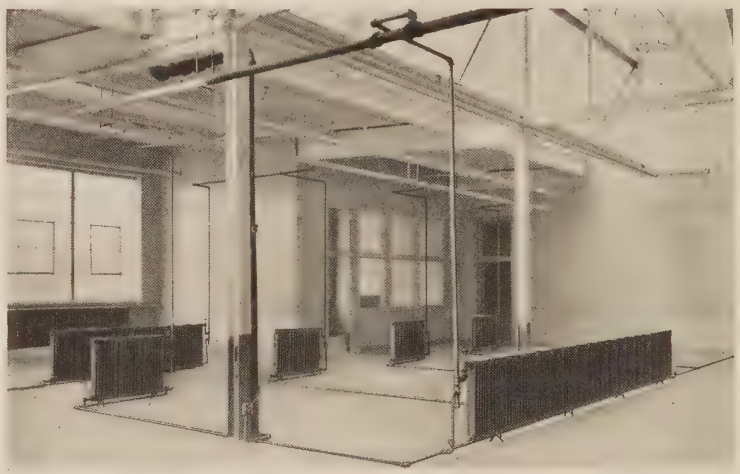


Fig. 194

Illustrating AMERICAN Peerless Wall Radiators on ARCO Attachable Legs set in position before room partitions are placed. Note the large and varied range of heating surface assemblages, and the ease of adjusting radiators and piping to present or future needs.

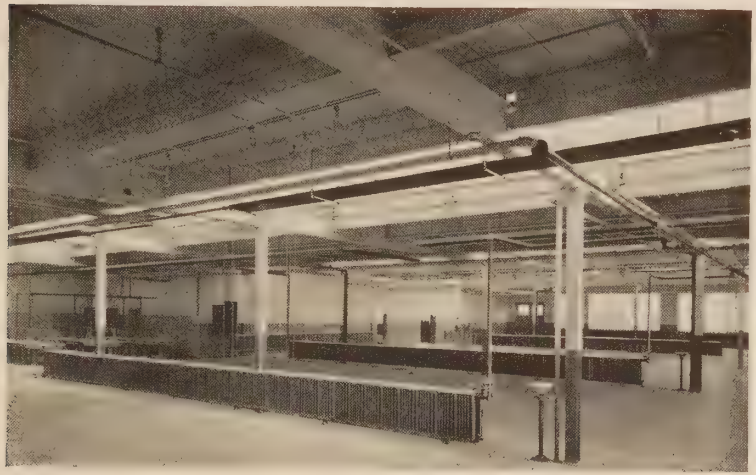


Fig. 195

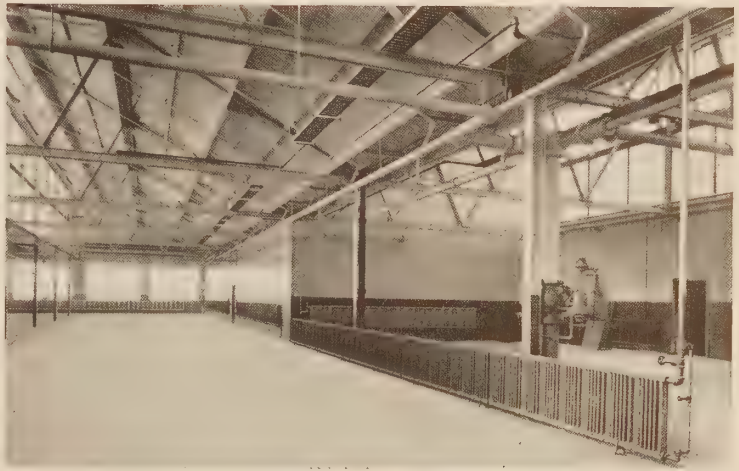


Fig. 196

Note the effective placing of AMERICAN Peerless Wall Radiators in skylights, also double and single rows of Radiators on ARCO Attachable Legs before wire partitions are placed. Also note ARCO Adjustable Trapeze Supports on ceiling. Note that both the single and double rows of AMERICAN Wall Radiators are over 50 feet in length and in perfect alignment. Can be readily adjusted to "fence off" any departmental floor needs, present or future, or hung as and where needed in bays or skylights, or on walls and around columns.

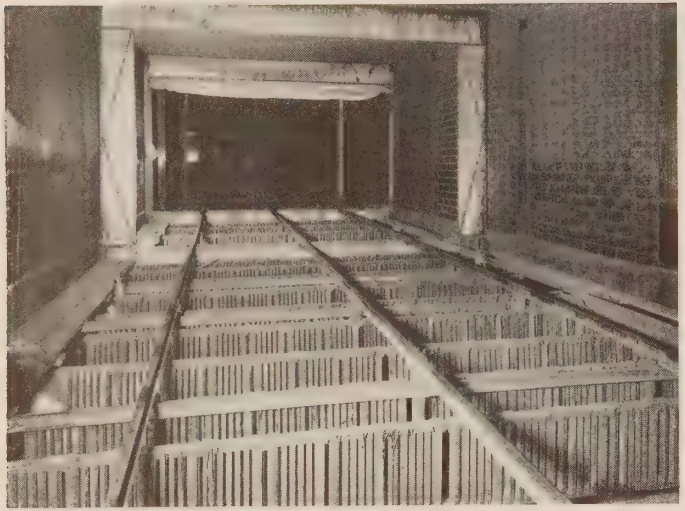


Fig. 197

Illustrating a typical installation of AMERICAN Peerless Wall Radiators in kiln drying-room of a leading manufacturer of automobiles.

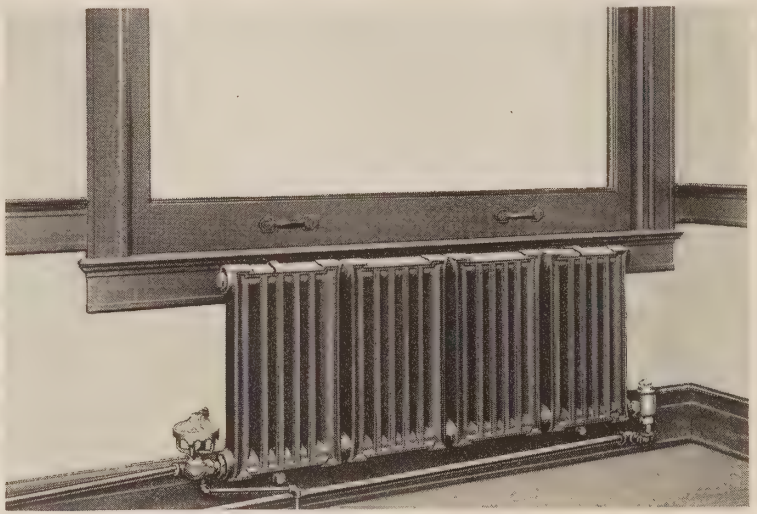


Fig. 198

Illustrating a typical neat, effective, out-of-the-way installation of AMERICAN Peerless Wall Radiators under window in skyscraper office building.

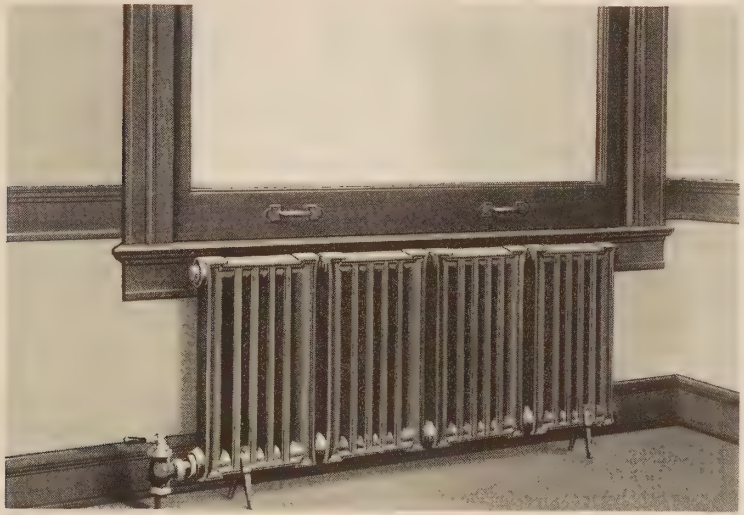


Fig. 198½. Illustrating how neatly and effectively installation under window may be accomplished by means of ARCO Attachable Legs and AMERICAN Peerless Wall Radiators.

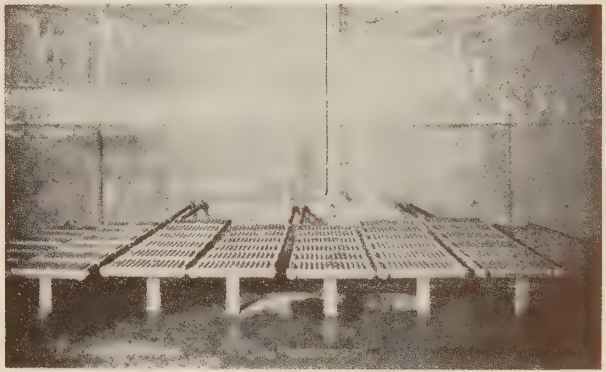
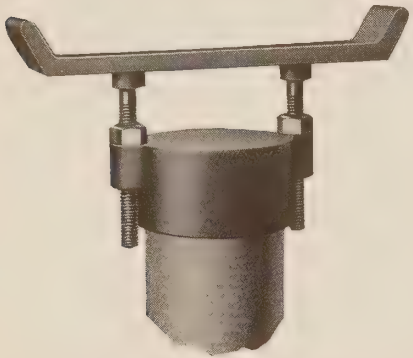


Fig. 199. AMERICAN Peerless Wall Radiators used to heat creosote in a railroad tie creosoting tank. Pipe coils in such tanks often are soon destroyed by chemical action, and which Cast-Iron Wall Radiators resist.

ARCO Greenhouse Radiator Post Supports give to greenhouse men a long-sought, permanent means of installing radiator heating surfaces under benches, and insure a construction doing away with the vexatious, costly troubles from sagging, trapped coils and split headers.



Patent applied for

Fig. 200. ARCO Greenhouse Post Support, No. 1.

These Supports are made in size to cap a 5-inch concrete molded post. (See Fig. 201, page 50.) The two ears, with their ⅝-inch rods, uphold the ARCO heavy cast-iron saddles, upon which rest the stacks of AMERICAN Peerless Wall Radiators. The threaded rods permit raising or lowering the saddles, to insure correct drainage of heating surfaces and piping as long as the greenhouse lasts.

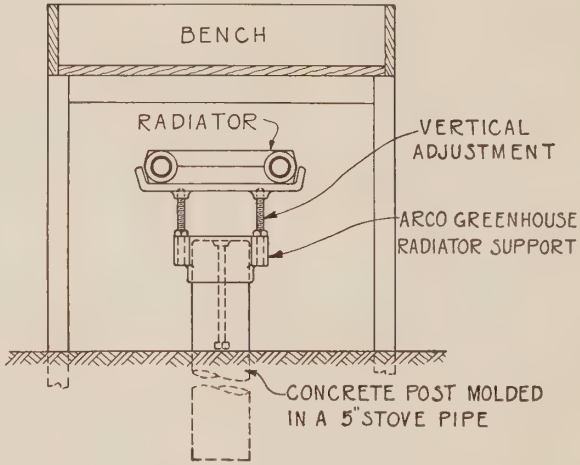


Fig. 201. End View of Bench.
See also Plan View of Benches, etc., on opposite page.

Arco Greenhouse Radiator Post Supports

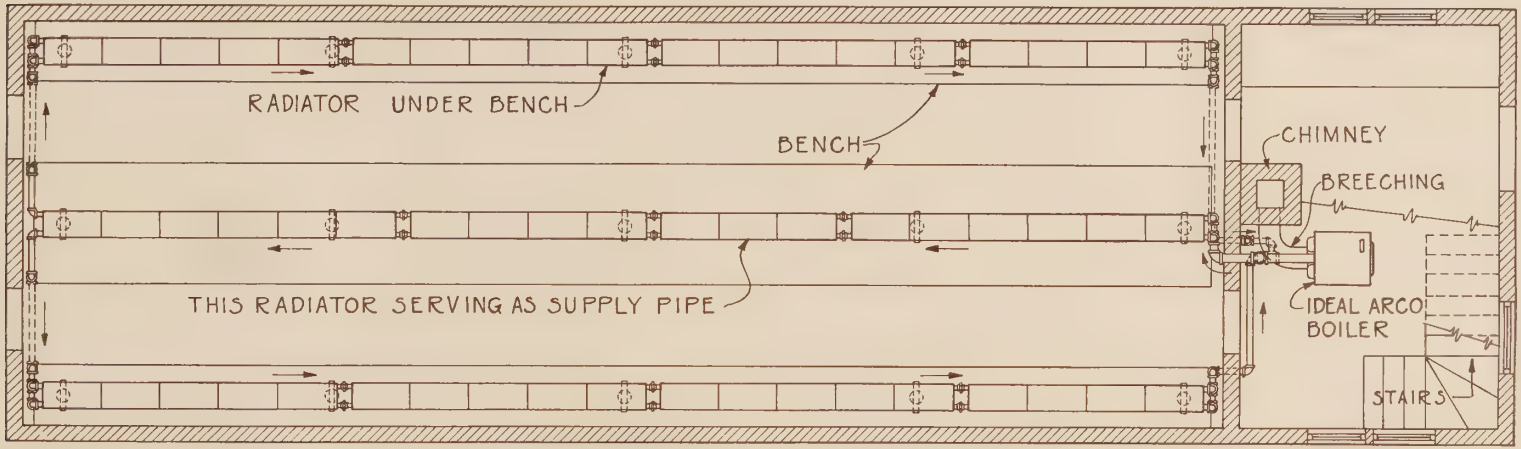


Fig. 202. Plan of typical greenhouse, showing runs of AMERICAN Peerless Wall Radiators placed under benches, in stacks connected with right- and left-hand threaded hexagon nipples. Dotted lines indicate where the ARCO Greenhouse Radiator Post Supports are placed to uphold the stacks of Radiators, and as further illustrated and described on page 50. Radiators shown on this plan are of the "B" type, which in this arrangement offer freer circulation of the heating medium.

MORE than fifty thousand installations of AMERICAN Peerless Wall Radiators have been made in about every form or class of structure or place that can be imagined. This large number of shipments precludes the showing of a complete list here. In these installations more than thirty million square feet of AMERICAN Peerless Wall Radiators are used. A special list of installations in any specified locality will be supplied on application.

AMERICAN Peerless Wall Radiators for heating, cooling, drying or curing are used in:

Arcades	Conservatories	Gymnasiums	Printing houses	Stores
Art galleries	Depots	Hotels	Restaurants	Street-car barns
Asylums	Distilleries	Interlocking R. R. towers	Residences	Sun-rooms of hospitals
Auditoriums	Dock offices	Laundries	Rope-walks	Sun-rooms of hotels
Automobiles	Dry kilns	Libraries	R. R. roundhouses	Tanks, vats, etc.
Battleships	Dyeing works	Machine shops	R. R. waiting-rooms	Tanneries
Barns	Factories	Mills	Sanitariums	Theaters and studios
Book binderies	Fire Dept. towers	Movies and studios	School buildings	Tobacco barns
Bowling alleys	Fire engine houses	Oil refineries	Ships' cabins	Turkish baths
Breweries	Freight houses	Offices and banks	Skating rinks	Warehouses
Churches	Garages	Photograph galleries	Steamships	Weighing-rooms
Commission warehouses	Greenhouses	Post-offices	Storage warehouses	Yachts, etc., etc.

This Company cordially invites requests for special information covering the heating, drying, cooling and ventilating needs of these and other classes of buildings or processes. Also ask for special "*Refrigeration*" catalog.

HIGHER Working Pressures—AMERICAN Peerless Wall Radiators are regularly tested at the factory at from 100 to 120 pounds cold water pressure, but where higher working pressures (steam or water) than 40 pounds are required order must specifically so state. In these cases wall radiators are furnished only with outside hexagon nipples.

For Convenience in Handling and Shipping in *less than carload lots*, unless otherwise ordered, No. 5-A Radiators will be assembled in stacks not exceeding six sections; No. 7-A Radiators in stacks not exceeding four sections; No. 9-A Radiators in stacks not exceeding three sections; and Nos. 7-B and 9-B Radiators in stacks not exceeding seven sections. See page 54 for schedule of shipping Wall Radiators in stacks or units, as followed in our factory practice, unless otherwise ordered.

When Erecting Large Stacks—When fitter intends to erect a stack consisting of more sections than above mentioned, or when the sections or stacks are to be set in rows or series (as shown by illustrations on pages 58 to 60), we provide a right- and left-hand threaded nipple *having hexagon nut at center*, enabling the fitter easily to connect the stacks or rows on the job.

The 1½-inch right- and left-hand threaded internal nipples have two heavy inside lugs so that an ordinary piece of 1-inch round iron, flattened at one end the length of nipple, can be inserted to any desired point in the Radiator, and by applying an ordinary wrench to bar the nipple can be screwed or unscrewed and one or more sections may be added or taken out. We can furnish these bars (Direct Radiator Wrenches) in 4-foot lengths.

Shipping Wall Radiators in Units or Stacks

IT is our practice to ship AMERICAN Peerless Wall Radiators in stacks, as explained on page 53. To assist customers we append schedule of shipping units or stacks as practiced by us, unless otherwise ordered.

7- and 9-B Wall Radiators

Sections	Units			Sections	Units				
8	1-4	1-4		22	1-6	1-6	1-6	1-4	
9	1-5	1-4		23	1-6	1-6	1-6	1-5	
10	1-5	1-5		24	1-6	1-6	1-6	1-6	
11	1-6	1-5		25	1-7	1-6	1-6	1-6	
12	1-6	1-6		26	1-7	1-7	1-7	1-5	
13	1-7	1-6		27	1-7	1-7	1-7	1-6	
14	1-7	1-7		28	1-7	1-7	1-7	1-7	
15	1-5	1-5	1-5	29	1-6	1-6	1-6	1-6	1-5
16	1-5	1-6	1-5	30	1-6	1-6	1-6	1-6	1-6
17	1-6	1-5	1-6	31	1-7	1-6	1-6	1-6	1-6
18	1-6	1-6	1-6	32	1-7	1-7	1-6	1-6	1-6
19	1-6	1-7	1-6	33	1-7	1-7	1-7	1-6	1-6
20	1-7	1-6	1-7	34	1-7	1-7	1-7	1-7	1-6
21	1-7	1-7	1-7	35	1-7	1-7	1-7	1-7	1-7

Radiators 7 sections and under shipped in one unit.

7-A Wall Radiators

Sections	Units				
5	1-3	1-2			
6	1-3	1-3			
7	1-4	1-3			
8	1-4	1-4			
9	1-3	1-3	1-3		
10	1-4	1-2	1-4		
11	1-4	1-3	1-4		
12	1-4	1-4	1-4		
13	1-4	1-3	1-3	1-3	
14	1-4	1-4	1-3	1-3	
15	1-3	1-3	1-3	1-3	1-3
16	1-4	1-4	1-4	1-4	
17	1-4	1-4	1-3	1-3	1-3
18	1-4	1-4	1-4	1-3	1-3
19	1-4	1-4	1-4	1-4	1-3
20	1-4	1-4	1-4	1-4	1-4

Radiators 4 sections and under shipped in one unit.

9-A Wall Radiators

Sections	Units						
4	1-2	1-2					
5	1-3	1-2					
6	1-3	1-3					
7	1-3	1-2	1-2				
8	1-3	1-3	1-2				
9	1-3	1-3	1-3				
10	1-3	1-3	1-2	1-2			
11	1-3	1-3	1-3	1-2			
12	1-3	1-3	1-3	1-3			
13	1-3	1-3	1-3	1-2	1-2		
14	1-3	1-3	1-3	1-3	1-2		
15	1-3	1-3	1-3	1-3	1-3		
16	1-3	1-3	1-3	1-3	1-2	1-2	
17	1-3	1-3	1-3	1-3	1-3	1-2	
18	1-3	1-3	1-3	1-3	1-3	1-3	
19	1-3	1-3	1-3	1-3	1-3	1-2	1-2
20	1-3	1-3	1-3	1-3	1-3	1-3	1-2

Radiators 3 sections and under shipped in one unit.

KEY to Figure Numbering—Orders should refer to figure number showing assemblage. (See pages 56 to 60.) The first numeral in each of the following figure numbers indicates the size of section, thus: Fig. 511 means 5-foot sections arranged in the manner as shown in sketch above the number; Fig. 711 refers to 7-foot sections and to the same assemblage; and Fig. 911 refers to 9-foot sections and to the same assemblage.

Assemblages—Sections are always assembled with bars vertical for greatest heating efficiency. The figures shown on these pages illustrate the common ways of assembling comparatively small units, but AMERICAN Peerless Wall Radiators can be assembled in any number of sections, either longer or higher than shown in the figures. It is our practice, however, when a greater number of sections are specified than exactly shown in the figure, always to build on to the length, maintaining the height as shown in the figure. The safe way in ordering is always to send sketch unless you are ordering exactly the number of sections as shown in the figure.

Regular and Special Tappings—The regular tappings of AMERICAN Peerless Wall Radiators, as shown on the following pages, are indicated by Nos. 2, 3, 4, 5, 6, 7, 8 and 9. Nos. 20, 30, 40, 50, 60, 70, 80 and 90 indicate special tappings which can be furnished if desired and for which an extra charge will be made. Tappings are 1½ inches, supply and return, and bushed as desired. See also "Directions for Ordering," page 53.

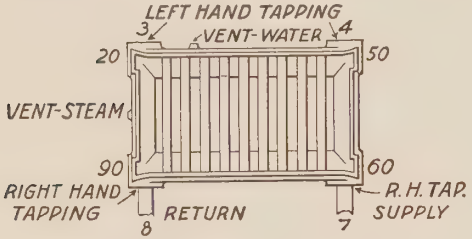


Fig. 51, 71 or 91.
Water and One- and Two-Pipe Steam.

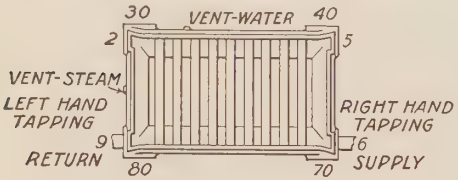


Fig. 57, 77 or 97.
Water and One- and Two-Pipe Steam.

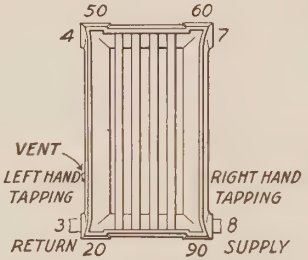


Fig. 74 or 94.
One- and Two-Pipe Steam.

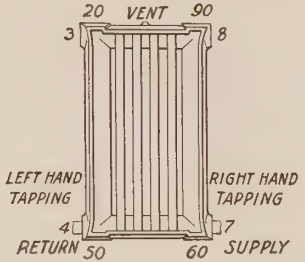


Fig. 78 or 98.
Water.

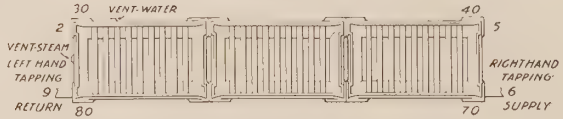


Fig. 511, 711 or 911.
Assembled Three Sections in Single Tier—Water and One- and Two-Pipe Steam.

See notes on Assemblages and Tappings, page 55.

Assemblage Figures and Tappings—Continued

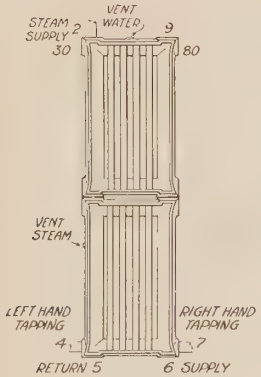


Fig. 713 or 913.
Two Sections in Two Tiers —Water and Two-Pipe Steam.

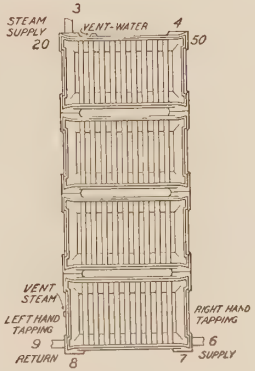


Fig. 515, 715 or 915.
Assembled Four Sections in Four Tiers—Water and Two-Pipe Steam.

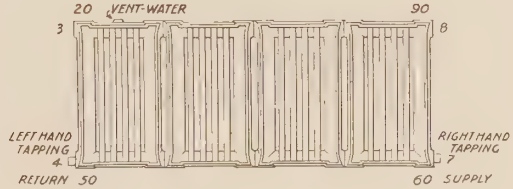


Fig. 717 or 917.
Assembled Four Sections in Single Tier—Water.

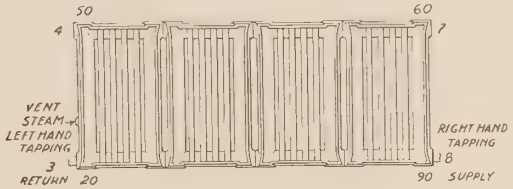


Fig. 718 or 918.
Assembled Four Sections in Single Tier—One- and Two-Pipe Steam.

See notes on Assemblages and Tappings, page 55.

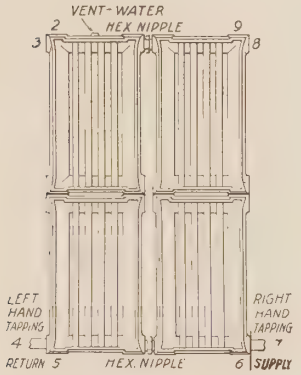


Fig. 719 or 919.
Assembled Four Sections in Two Tiers—Water.

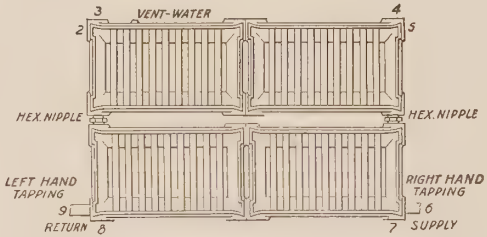


Fig. 521, 721 or 921.
Assembled Four Sections in Two Tiers—Water.

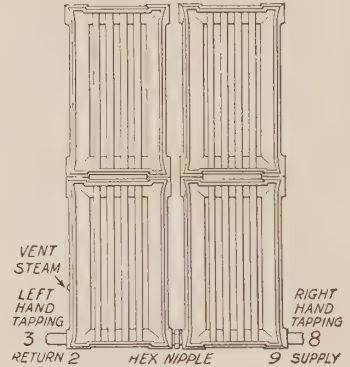


Fig. 720 or 920.
Assembled Four Sections in Two Tiers—One- and Two-Pipe Steam.

See notes on Assemblages and Tappings, page 55.

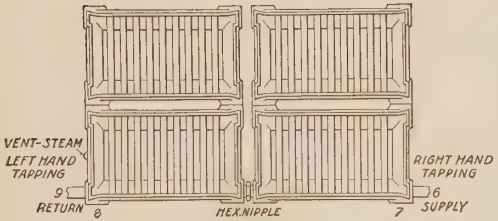


Fig. 522, 722 or 922.
Assembled Four Sections in Two Tiers—
One- and Two-Pipe Steam.

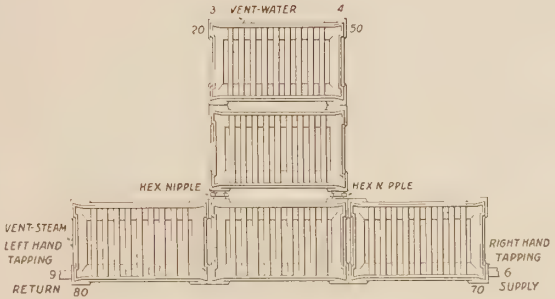


Fig. 523, 723 or 923.
Assembled Three and Two Sections with Three Tiers in
Center—Water and One- and Two-Pipe Steam.

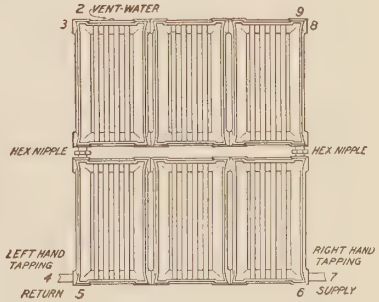


Fig. 725 or 925.
Assembled Six Sections in Two Tiers—
Water.

See notes on Assemblages and Tappings, page 55.

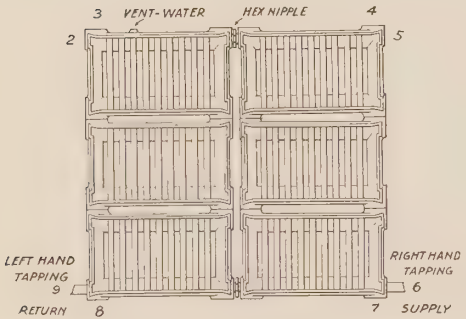


Fig. 527, 727 or 927.
Assembled Six Sections in Three Tiers—Water.

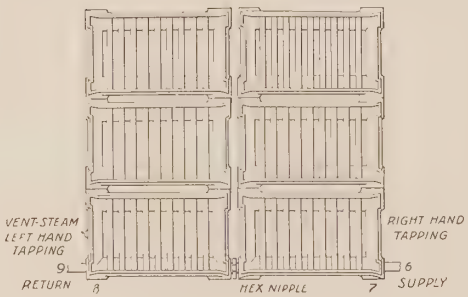


Fig. 528, 728 or 928.
Assembled Six Sections in Three Tiers—One- and Two-Pipe Steam.

DECIMAL EQUIVALENTS

1/64	.0156	23/64	.3593	45/64	.7031
1/32	.0312	3/8	.375	23/32	.7187
3/64	.0468	25/64	.3906	47/64	.7343
1/16	.0625	13/32	.4062	3/4	.75
5/64	.0781	27/64	.4218	49/64	.7656
3/32	.0937	7/16	.4375	25/32	.7812
7/64	.1093	29/64	.4531	51/64	.7968
1/8	.125	15/32	.4687	13/16	.8125
9/64	.1406	31/64	.4843	53/64	.8281
5/32	.1562	1/2	.5	27/32	.8437
11/64	.1718	33/64	.5156	55/64	.8593
3/16	.1875	17/32	.5312	7/8	.875
13/64	.2031	35/64	.5468	57/64	.8906
7/32	.2187	9/16	.5625	29/32	.9062
15/64	.2343	37/64	.5781	59/64	.9218
1/4	.25	19/32	.5937	15/16	.9375
17/64	.2656	39/64	.6093	61/64	.9531
9/32	.2812	5/8	.625	31/32	.9687
19/64	.2968	41/64	.6406	63/64	.9843
5/16	.3125	21/32	.6562	1	1.0
21/64	.3281	43/64	.6718		
11/32	.3437	11/16	.6875		

See notes on Assemblages and Tappings, page 55.

Dia.	Area	Dia.	Area	Dia.	Area	Dia.	Area	Dia.	Area	Dia.	Area	Dia.	Area	Dia.	Area	Dia.	Area
1/8	0.0123	1/4	3.976	1/2	56.745	1/2	213.82	1/2	471.43	40	1256.6	56	2463.0	72	4071.5	88	6082.1
1/4	0.0491	1/2	4.908	9	63.617	17	226.98	25	490.87	41	1320.2	57	2551.7	73	4185.3	89	6221.1
3/8	0.1104	3/4	5.939	1/2	70.882	1/2	240.52	26	530.93	42	1385.4	58	2642.0	74	4300.8	90	6361.7
1/2	0.1963	3	7.068	10	78.54	18	254.46	27	572.55	43	1452.2	59	2733.9	75	4417.8	91	6503.8
5/8	0.3067	1/4	8.295	1/2	86.59	1/2	268.80	28	615.75	44	1520.5	60	2827.4	76	4536.4	92	6647.6
3/4	0.4417	1/2	9.621	11	95.03	19	283.52	29	660.52	45	1590.4	61	2922.4	77	4656.0	93	6792.9
7/8	0.6013	3/4	11.044	1/2	103.86	1/2	298.64	30	706.86	46	1661.9	62	3019.0	78	4778.3	94	6939.7
1	0.7854	4	12.566	12	113.09	20	314.16	31	754.76	47	1734.9	63	3117.2	79	4901.6	95	7088.2
1/8	0.9940	1/2	15.904	1/2	122.71	1/2	330.06	32	804.24	48	1809.5	64	3216.9	80	5026.5	96	7238.2
1/4	1.227	5	19.635	13	132.73	21	346.36	33	855.30	49	1885.7	65	3318.3	81	5153.0	97	7389.8
3/8	1.484	1/2	23.758	1/2	143.13	1/2	363.05	34	907.92	50	1963.5	66	3421.2	82	5281.0	98	7542.9
1/2	1.767	6	28.274	14	153.93	22	380.13	35	962.11	51	2042.8	67	3525.6	83	5410.6	99	7697.7
5/8	2.073	1/2	33.183	1/2	165.13	1/2	397.60	36	1017.8	52	2123.7	68	3631.6	84	5541.7	100	7854.0
3/4	2.405	7	38.484	15	176.71	23	415.47	37	1075.2	53	2206.1	69	3739.2	85	5674.5	125	12271.0
7/8	2.761	1/2	44.178	1/2	188.69	1/2	433.73	38	1134.1	54	2290.2	70	3848.4	86	5808.8	150	17671.0
2	3.141	8	50.265	16	201.06	24	452.39	39	1194.5	55	2375.8	71	3959.2	87	5944.6	200	31416.0

To find the area of a circle when diameter is given, multiply the square of the diameter by .7854.

Dia.	Circumference	Dia.	Circumference	Dia.	Circumference	Dia.	Circumference	Dia.	Circumference	Dia.	Circumference	Dia.	Circumference	Dia.	Circumference	Dia.	Circumference
1/8	0.3927	1/4	7.0686	1/2	26.704	1/2	51.836	1/2	76.969	40	125.664	56	175.929	72	226.195	88	276.460
1/4	0.7854	1/2	7.8540	9	28.274	17	53.407	25	78.540	41	128.805	57	179.071	73	229.336	89	279.602
3/8	1.1781	3/4	8.6394	1/2	29.845	1/2	54.978	26	81.681	42	131.947	58	182.212	74	232.478	90	282.743
1/2	1.5708	3	9.4248	10	31.416	18	56.549	27	84.823	43	135.088	59	185.354	75	235.619	91	285.885
5/8	1.9635	1/4	10.210	1/2	32.987	1/2	58.119	28	87.965	44	138.230	60	188.496	76	238.761	92	289.027
3/4	2.3562	1/2	10.996	11	34.558	19	59.690	29	91.106	45	141.372	61	191.637	77	241.903	93	292.168
7/8	2.7489	3/4	11.781	1/2	36.128	1/2	61.261	30	94.248	46	144.513	62	194.779	78	245.044	94	295.310
1	3.1416	4	12.566	12	37.699	20	62.832	31	97.389	47	147.655	63	197.920	79	248.186	95	298.451
1/8	3.5343	1/2	14.137	1/2	39.270	1/2	64.403	32	100.531	48	150.796	64	201.062	80	251.327	96	301.593
1/4	3.9270	5	15.708	13	40.841	21	65.973	33	103.673	49	153.938	65	204.204	81	254.469	97	304.734
3/8	4.3197	1/2	17.279	1/2	42.412	1/2	67.544	34	106.814	50	157.080	66	207.345	82	257.611	98	307.876
1/2	4.7124	6	18.850	14	43.982	22	69.115	35	109.956	51	160.221	67	210.487	83	260.752	99	311.018
5/8	5.1051	1/2	20.420	1/2	45.553	1/2	70.686	36	113.097	52	163.363	68	213.628	84	263.894	100	314.160
3/4	5.4978	7	21.991	15	47.124	23	72.257	37	116.239	53	166.504	69	216.770	85	267.035	125	392.700
7/8	5.8905	1/2	23.562	1/2	48.695	1/2	73.827	38	119.381	54	169.646	70	219.911	86	270.177	150	471.240
2	6.2832	8	25.133	16	50.265	24	75.398	39	122.522	55	172.788	71	223.053	87	273.319	200	628.320

To find the circumference of a circle when diameter is given, multiply the given diameter by 3.1416.

Fig. No.	Page No.	Name of Article	Code Word
116	14	5-A Wall Section, Steam	Sentinel
116	14	5-A Wall Section, Water	Septangle
119	17	7-B Wall Section, Steam	Septuary
119	17	7-B Wall Section, Water	Seraphic
117	15	7-A Wall Section, Steam	Sergeant
117	15	7-A Wall Section, Water	Serotine
120	18	9-B Wall Section, Steam	Servable
120	18	9-B Wall Section, Water	Servitor
118	16	9-A Wall Section, Steam	Setireme
118	16	9-A Wall Section, Water	Setulose
107	11	ARCO Adjustable Wall Bracket, Regular, No. 1	Ubiquity
108	11	ARCO Adjustable Wall Bracket, Regular, No. 2	Ulcerate
109	11	ARCO Adjustable Wall Bracket, Regular, No. 3	Ulterior
110	12	ARCO Adjustable Wall Bracket, Double, No. 1	Ultimate
111	12	ARCO Adjustable Wall Bracket, Double, No. 2	Umbrage
112	12	ARCO Adjustable Wall Bracket, Double, No. 3	Umbrellas
113	13	ARCO Junior Adjustable Wall Bracket, No. 1	Umpired
176	38	ARCO Attachable Leg, Single	Underhand
177	38	ARCO Attachable Leg, Double	Underscore

Fig. No.	Page No.	Name of Article	Code Word
167	35	ARCO Backset Connection, 1½-inch, No. 1	Ungrateful
168	35	ARCO Clearway Form, No. 1	Unguents
169	35	ARCO Clearway Form, No. 2	Unharness
170	35	ARCO Clearway Form, No. 3	Unicorns
200	50	ARCO Greenhouse Radiator Post Support, No. 1	Unitarian
183	41	ARCO Pendant Flight, No. 1	University
171	36	ARCO Safety Concrete Insert, No. 1	Unlawful
159	30	Beam Clamp, No. 1	Unlimbered
145	29	ARCO Slip End Support, No. 5	Unrequited
147	29	ARCO Trapeze Support, Single, No. 1, ¾-inch pipe	Uranium
149	29	ARCO Trapeze Support, Double, No. 2, ¾-inch pipe	Usurious
148	29	ARCO Trapeze Support, Single, No. 3, 1-inch pipe	Utility
150	29	ARCO Trapeze Support, Double, No. 4, 1-inch pipe	Uxorious

For General Telegraph Code (covering correspondence, dates, numerals, prices, shipments, boilers, radiators, heating specialties, etc.) see "The Ideal Fitter" catalog.

The appointment of a competent engineer to cooperate with the architect during preparation of the building plans and specifications is an act of wisdom on the part of the owner. Such action insures him not only the plant best suited to his requirements but also the one involving the greatest economy in first cost as well as in operation.

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